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INTERNATIONAL EDUCATION SERIES

ENGLISH EDUCATION

IN THE ELEMENTARY AND
SECONDARY SCHOOLS

BY

ISAAC SHARPLESS, Sc.D., LL.D.

PRESIDENT OF HAVERFORD COLLEGE, PENNSYLVANIA

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EDITOR'S PREFACE.

ACCORDING to our classification of educational books in this series, the present work falls in the first division, under the History of Education.

There are no two nations on exactly the same road, politically or educationally. Hence it is important for the director of schools to clearly understand its national point of view before he attempts to pass judgment on the fitness of a school system or proposes to transplant it to his own country.

England stands in the world-history for the originator of the political system of local self-government. It is a historic growth, and not a theoretical invention hatched in the minds of statesmen or political philosophers. Each of the constituent peoples in the combination—Celt, Roman, Angle, Saxon, Dane, and Norman—was so stubborn as to be invincible within some last citadel of its own, and the struggle for dominion had to end in a compromise. In a compromise two wills are united and victorious; each respects the other and adopts it as its own to a certain extent. In an absolute conquest only one will remains dominant, while one is destroyed.

Out of a manifold compromise arose the British Constitution, each element of the population having

a sphere of self-government within which it was left absolute.

This fact explains the survival of the caste system in England in a form different from that found on the Continent of Europe. In England caste is a means of personal freedom; on the Continent it is a means of oppression. The walls of caste in England are the terms of mutual compromise in which the parties struggling for dominance have finally agreed to recognize one another's invincible might. In France, Italy, Germany, and Austria the lines of caste, except where municipal corporations have secured recognition by military resistance to arbitrary power, are lines not of acknowledged might but of grace conceded by the higher power to the vassal.

Hence we see on the Continent a degree of centralization not possible in England or in English colonies. The local governments in France and Germany hold their powers not by some ancient constitution of the realm, but by the concession of the central power as it now exists.

Witness the central control of the educational systems of France, Belgium, Germany, Austria, Italy, and Spain! And in what contrast to these stands the English system!

In England not only do all the people possess original rights and powers, but every institution, every piece of property, every franchise, and every existing custom, good or bad, are permitted and expected to claim their privileges and resist aggression. This resistance may appear, first, in the securing of representation in the national Parliament; or, secondly, in the

employment of all the skill of the legal profession to secure favor in the courts that guide the administration of the laws; or, thirdly, in securing the appointment of executive officers who will so administer the law as to protect the interest in question.

In studying the English Government one must remember that every existing element, whether it be persons or property or privilege, never at any time loses its right of self-protection, whether before legislation or after legislation, before the judicial decision or after it. Everything has rights which all others are bound to respect.

This is the deep significance of local self-government in the mother country where it originated.

In Rome, where the principle of contract and the rights of private property and person were formulated into the code of civil freedom, the law is regarded as substantial, and whatever opposes it as of no validity. Hence centralization can coexist with perfect civil freedom in the several countries that inherit from Rome. But the English principle is an advance over the Roman in the evolution of the idea of the state.

The true ideal of a state demands that the central government shall so act on the individual citizen as to continually develop in him the power of self-direction. In England there is a constant pull of the whole state upon each citizen and each local interest, thus challenging its strength. On the other hand, each local interest and each individual pulls constantly on the government to gain its own ends. The Roman system rather tends to encourage cessation of individual effort. Much possible development of individual-

ity rusts unused. There is no other government so stimulative of development in the individual as the English.

In the light of this political tendency we must interpret the facts of English education. Wishing to increase the efficiency of schools and secure the attendance of all classes of children, the Government does not set up a new system over against the school system already in existence, but strives rather to render more efficient the schools already existing, by granting them subsidies and by insisting on inspection. To pay for results means to encourage the production of the results asked for.

Meanwhile, if there are places without schools, these shall establish them. If the Church and individual or corporate enterprise has failed to provide, then there must be board schools established. In this case the power of the whole compels the local power to go with it. But it does not in this override the local power by the national arm, for it is the local power that must establish and govern the school.

The school boards, with city systems of schools very much like those in America, provide for about thirty-eight per cent of the entire enrollment. The national Church system is very strong. Altogether, the private and parochial schools get over sixty per cent of the elementary pupils, while with us in America they get less than ten per cent.

That the board schools are destined to absorb a large portion of the private and parochial pupils is quite evident. It is a struggle for survival of the fittest, and the municipality representing the corporate

strength of the community will be able to excel individuals and Church organizations and private corporations in important particulars. The best endowed schools will remain. There will, in fact, be a sort of citadel of private and Church effort in education where the public-school system will not penetrate.

In the United States we may say that ten per cent of the schools are private and parochial, and that it is better to have something like this proportion for the sake of competition. It makes the public schools better to have a rival.

In Chapter V the author discusses the great endowed schools which in England monopolize the title "public schools." Those schools—Eton, Rugby, Harrow, Winchester, etc.—deserve the most careful study on the part of American high-school teachers, both because of excellent features that can be copied, as well as because of features which can not be copied successfully outside of England. Their success in developing character and in securing physical development may well stimulate us to adopt some of the means which they have invented. But in other respects they are the central hold for the education of the caste to which the nobility belongs. Studied as the conservatory of the higher caste of English society, they, on the one hand, excite our admiration at the completeness of their equipment for this purpose; but, on the other hand, we see the reasons why any imitations of them in British colonies must prove failures, because of the lack of an hereditary aristocracy. What is genuine nobility in England becomes snobbery here. The young lord educated at a pub-

lic school gets a humane training, fitting him for a leader of men. The young American educated at a home school which imitates Eton and Harrow becomes an intellectual "dude," and loses touch with the people among whom he must live.

The most noteworthy feature of the English methods of teaching is the Bell and Lancaster system, or monitorial system, which lingers in the form of the pupil-teacher, or teacher apprentices. It is the basis, too, of the fagging system, for the boys of the highest class are, in fact, monitors.

In my opinion we have something to learn from this monitorial system. The kindergarten and the ungraded school in rural districts can, it seems to me, adopt a form of the Lancasterian system which would serve a good purpose. The cost of the kindergarten may be reduced to one fifth of what it is under the present plan, and the ungraded school may train its higher pupils more effectively as pupil-teachers than by the present stereotyped system.

But in the work of inspection it seems that England has something to learn of our system of city supervision. Our superintendents are not so much employed to inspect and record results as to aid the weak teachers in acquiring the methods of the strong teachers.

W. T. HARRIS.

WASHINGTON, D. C., *June, 1892.*

PREFACE.

THE writer of this book spent the greater part of the winter of 1890-'91 in England. Abundant opportunity was offered him for visiting schools of various sorts, for collecting literature, and for conversing with school and university men intimately acquainted with the subject. Believing that there is in America great ignorance of the present condition of English education, he has briefly summarized the results of his investigations, and presents them herewith.

There have been great advances since 1870. A comprehensive public elementary school system which ranks high in efficiency and in spirit has been established, the secondary schools have been reorganized, the abuse of the old endowments practically stopped, and the universities brought into much more intimate touch with the life of the nation. In no country has there been a more radical improvement in any score of years; while wise legislation, rigidly enforced, has held all that has been gained. There is much for Americans to learn, both to avoid and to copy, from this progress.

ISAAC SHARPLESS.

HAVERFORD COLLEGE, *April*, 1892.

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ENGLISH EDUCATION

IN THE ELEMENTARY AND SECONDARY SCHOOLS.

CHAPTER I.

THE HISTORY OF STATE EDUCATION TO 1870.

Religious difficulties in the way—Joseph Lancaster and the British and Foreign School Society—Andrew Bell and the National Society—Rivalry of the two—The first state aids to education—Founding of training colleges—The pupil-teacher system—Wastefulness and weaknesses—"Payment by results"—The Education Act of Gladstone and Forster—The growth of the system an interesting study.

THE states of continental Europe and of America have been able to a very large extent to ignore or to control the ecclesiastical element in making up their elementary public-school systems. The three adjectives so common in French educational literature—*free, compulsory, secular*—may be said to express the tendencies which in general govern the development of modern education. While few countries would admit that their schools were positively irreligious, many would consider that a most important element was involved in the fact that they were completely undenominational.

It is different in England. Like so many other English institutions, the school system has become

what it is as the result of many decades of development, and in that development the religious factor has of all others been the most potent. The English, it would seem, will have nothing to do with an education exclusively secular, and the difficulties involved in giving religious instruction without offending denominational feelings, more sensitive perhaps in England than elsewhere, have apparently been insurmountable. These difficulties for many years prevented anything effective being done, so that in 1870 England had of all civilized countries the least efficient organization. Since that time, though growth and improvement have been rapid, the difficulty has not disappeared. It lies very close to the surface, and breaks out in every parliamentary debate on the subject.

The two main parties to the controversy have been, on one side, the Established Church, which has sought to control the education of the masses of English children; and, on the other, the Dissenters, who have united to prevent this. The Act of 1870 was an ingenious piece of statesmanship involving renunciation on both sides, and to a certain extent using the weapons of both in furthering the common cause. Though representing only a stage in the controversy, which is still raging, it performed the inestimable service of giving to the country a most efficient organization. While the warfare continues, the people are being educated. The end sought for is not absolutely and perhaps not very seriously sacrificed to the discordant views of the best means

to obtain it. England is no longer lagging behind other nations. Her poor children are well taught, and if she can show the world how to harness denominational zeal and generosity, and make them assist in the educational problem, the delay will not have been in vain.

To understand the special set of influences which have molded elementary education in England into its present form, it is necessary to go back about one hundred years.

In 1798 Joseph Lancaster, then a youth of twenty years, full of a zeal which recalls that of Pestalozzi to attack the dense ignorance he saw around him, opened in Southwark, London, a school for the education of poor children. Those paid who would, those who would not were not declined. He soon gathered about one hundred children, and with increase of numbers and diminution of income it became necessary to have cheap teachers to assist him. He adopted the expedient of employing his older scholars to teach the younger. Under his enthusiastic supervision the plan worked well. Interest was created in certain rich patrons, and means were found to increase the building. In 1803 he published his *Improvements in Education as it respects the Industrious Classes of the Community*. In 1804 his school was still further enlarged, and he arrived at what he thought to be the goal of his hopes when he had one thousand children under one roof under his sole control, and with no other teachers but themselves. The novel institution was a center of

attraction. Visitors flocked to see it. Lords and finally the king himself subscribed to its funds. Lancaster seemed to have solved the problem of educating the nation at a trifling expense. A normal school was established to teach his methods, and its promoters fondly hoped that England would become permeated with the Lancasterian system, as it began to be called. Lancaster himself traveled over the country, lecturing, starting new schools, supervising, distributing, in a rather reckless manner, his money and what he could borrow, and waking up the people to the value of education.

The result was that in 1807 he found himself saddled with a debt of over thirty thousand dollars, and pursued by impatient creditors. To save him and his system, an association was started. This was the origin of the Royal Lancasterian Society, which in 1814 changed its name to the British and Foreign School Society, is still in existence, and has been an important factor in all the educational movements since its foundation.

But Lancaster was a Quaker. "Religious but undenominational" was the watchword of the new society. To teach poor children to read the Bible was prominently put forward as one of its objects, but the catechism of no church was to be allowed in its schools. Many of the more liberal members of the Established Church and the Nonconformists generally rallied to its support. Lancaster himself was such an independent genius that he could work with no society. He soon withdrew from it, set up

a school of his own, which was a miserable financial failure, wandered to foreign lands, and finally died in poverty. But the society itself, supported by liberal contributions, started on a successful career, and established its schools in many parts of England.

The clergy of the Established Church took alarm at this state of things. The position of their Church would be weakened if the youth of the country were educated by other hands than theirs. They would match the new system by another, also reaching down to the poorer classes, but giving them in addition the influences and literature of their Church. They had a worthy rival to Lancaster in Dr. Andrew Bell.

Dr. Andrew Bell had gone out to Madras in 1789 as military chaplain, and was placed in charge of an orphan school. He there saw a school of Hindoo children divided into groups, each group in the charge of one of the older pupils. He introduced the idea into his school, and when he returned to England in 1797 he published the description of the "Monitorial System." This was in advance of Lancaster's experiment, but the book was unknown to the public, and the idea had occurred to both independently. Lancaster's success made it prominent, and Bell claimed the priority of discovery. Each was indebted to the other for its subsequent development. Bell had but little of the fiery enthusiasm of Lancaster, but much greater steadiness of purpose, good sense, and organizing power.

In 1811 was established the National Society,

with Bell as manager, a position he retained to his death, conducting its affairs with great wisdom and success. Some of the churchly patrons of the Lancasterians transferred their support to the new society. The Archbishop of Canterbury was placed at its head, and money flowed in so rapidly that it was soon able greatly to outstrip its older rival.

The monitorial idea was after a time found impracticable and was thrown aside, but the societies, settling themselves down to the great task of giving elementary education to the English poor, prospered apace, adopting new methods as they better learned the task they had to do. The British Society succeeded best in the large cities. The National placed its schools all over England, and in most country districts had a practical monopoly of the work. The rivalry between them was healthy, and probably never took the form of injuring each other. Both have to a large extent accomplished their objects. The one has familiarized England with undenominational education, and finds its fruition in the present Board-School system. The other has undoubtedly given strength and vitality to the Anglican Church. Their ideas have been and are conflicting, but out of the conflict has evolved an efficient system of national education. The principles of the National Society can not prevail until dissent is crushed, and perhaps not then. Those of the other do not seem likely to conquer till the ideas and spirit of the Established Church lose their hold on a great portion of the English people.

But private effort, however liberal, could not meet the whole case. Every one seemed conscious that the state must assist with her funds. Lord Brougham in his rude way made several efforts between 1816 and 1820, first to investigate the conditions of popular education, and then to apply the remedies. But his plans fell between the two fires. The Established Church was jealous of anything which would do the work which it naturally thought belonged to itself. The Nonconformists were equally fearful of adding to the strong relative position of the Church. Measures would pass one House and be rejected by the other. No compromise could please both parties, and practically nothing was done till 1832, when a clause was quietly inserted in the estimates placing \$100,000 for general educational purposes at the disposal of the education department. The money was paid over to the two societies to be applied by them to the building of school-houses, in cases where an equal amount was raised by voluntary subscription. This grant was continued each year till 1839, when it was raised to \$150,000, and a special committee was created to supervise its distribution, still through the agency of the societies. This committee, much enlarged in scope, still exists, and is called by the (to an American) rather ambiguous title of "Committee of Council on Education." The early minutes of this committee lay down the principle upon which grants will be given. They will be given only to schools where the Bible is read; only to schools which have a "conscience clause,"

which allows parents to withdraw their children during any religious instruction unsatisfactory to them; and only to schools which allow their work to be inspected by an authorized agent of the committee who reports favorably as to their efficiency. The last two conditions, though only the decisions of a small committee, have been permanently ingrafted upon the English system. Religious instruction is not now a subject of inspection. Then it was the topic of a bitter controversy. Judged important by all, it was finally agreed that all inspectors were to be subject to the veto, first of the archbishop, and secondly of the British and Foreign Society.

Various attempts were made to start state normal schools, all to be defeated by the fear that one party or another would derive undue advantage from them. The matter was finally left to the societies, aided by grants from the state, dependent upon the efficiency of the results. All the English "training colleges" are still in the hands of voluntary societies. In view of the long contest one is divided between sentiments of admiration for the private generosity which gave so liberally to popular education, and of a feeling not of admiration for the religious prejudices which sacrificed the cause to their jealousy.

In 1845 there was a sort of summation of results. From a careful inquiry by a committee, it appeared that one in six of the children at school could read, one in four could write, and not two per cent had mastered arithmetic as far as the "rule of three."

Something was wrong. Evidently the teaching was bad. The first change was to cast away the "monitorial system" of Bell and Lancaster. Untrained children evidently could not teach younger children successfully. In its place was imported from Holland the "pupil-teacher system," still in existence, but which will in a short time probably follow its predecessor, and be remembered in history as a feeble experiment. By it children of thirteen and fourteen were (and are) apprenticed till eighteen to a school, in the work of which they were to assist, and from which they were to receive regular instruction and a small stipend. At eighteen they were to go to a training college for two years.*

Other important measures adopted at this time were (1) granting certificates to teachers who could prove their efficiency by examination; (2) assisting training colleges by grants based on the value of results; and (3) allowing Catholic and Methodist schools to share in the grants on the same terms as those of the National and British and Foreign Societies.

Even though the trained and certificated teachers were but a very small proportion of the whole number, their effect on the teaching corps was almost immediate. The efficiency of teaching became manifestly greater. Inspectors brought in reports of better results. Consequent upon this there was an increased willingness on the part of Parliament to

* A more detailed account of the pupil-teacher system as now existing will be found in the chapter on The Training of Teachers.

appropriate money, and the grants placed at the disposal of the Education Department rapidly rose in amount.

The next ten years show a steady and healthy if not very rapid growth of the system. England was experimenting on the educational problem, and willing to learn from her failures and successes alike. She did not copy any foreign system. Perhaps she would have progressed faster had she given more heed to what was being done elsewhere; but she would not have developed a scheme so thoroughly English, and which fitted so well into her national life, manner of thinking, and her other institutions.

She was not yet, however, giving popular education. Matthew Arnold, then an inspector, writing in 1853 says: "The children of the lowest, poorest classes of the country, of what are called the masses, are not, to speak generally, educated; the children who are educated belong to a different class from these, and consequently of the education of the masses, I, in the course of my official duty, see, strictly speaking, little or nothing."

The grants from the state given out in aid of denominational effort met in general not more than one third the expenses of the school. Voluntary subscriptions paid (say) another third, and the remainder came from the pockets of the parents. Sometimes a community would agree to tax itself for school purposes, but there was no law for this, and it was probably done but seldom. As there was no compulsory attendance and child labor was often

valuable, hundreds of thousands of the poorest children never saw the inside of a school-house, and as many more attended so irregularly as practically to be no better off.

In 1856 was created the office of Vice-President of the Committee of Council on Education, whereby an officer was appointed responsible to the House of Commons who was especially charged with the expenditure of the grant and the enactment of the conditions on which it was to be given.

In 1858-'62 there was a new epoch of inquiry-making and reform. Grants had now gone up to over \$3,000,000 yearly. People were awakening to the importance of the subject, and some good work was being done. There was, however, a fearful mass of ignorance as yet unattacked, and in the schools there was woful inefficiency. A large grant was given, and it was questionable whether corresponding results were obtained. Indeed, the grant in many cases worked positive harm. It was often paid directly to teachers whose income would thus be made to depend on the number of children they had on hand to meet the inspector. Paupers and invalids were sometimes dragged in. The children "tumble over each other," says one investigator, "like dogs in a kennel." The teachers themselves were often utterly incompetent. The stories the commissioners tell of their characters would be droll if the matter were not so serious. Evidently money was paid for very lamentable results.

Many were the suggestions offered for the cure.

Out of them came the decisions (1) not to interfere with the plan of dispensing aid through the voluntary societies, (2) to pay to the managers and not to the teachers, and (3) "payment by results."

Payment by results is a scheme by which the English Government is supposed to be certain of securing a shilling's worth of education for every shilling expended. Its author, Robert Lowe, expressed its merits in brief when he said: "If the system is costly, it shall be efficient: if inefficient, it shall be cheap." As then adopted, four shillings (one dollar) was to be allowed for each scholar in average attendance, and about sixty-six cents additional was to be given for every child who had attended two hundred times a year (two times a day) who could pass in each of the subjects reading, writing, and arithmetic. This pass was to be decided by an examiner unconnected with the school, and appointed and paid by the department. The first was a premium on attendance only, the last on teaching efficiency.

The results of this ingenious plan became soon manifest. Grants rapidly fell. The children could not pass the examinations. Poor schools could not sustain themselves, and either expired or brought themselves up to a better standard. In the former case many judgments not at all lenient were placed upon the author of their extinction, but the system survived. Just causes of criticism were also plentiful; but, modified and remodified, it outlived the attack, is still the basis of grants to schools, and bids fair to be a permanent factor in the English system.

Then followed ten more years of experiment, and in 1870 the time had evidently arrived to confront the problem by a serious and comprehensive measure of popular education.

As usual, legislation was preceded by a formal inquiry. This showed that there were many really good elementary schools in England ; that, stimulated by the grants, the teaching of reading, writing, and arithmetic was in most places thorough and efficient ; that a considerable number of trained and competent teachers were in the field ; and that several training colleges, belonging to the voluntary societies, were prepared, when assisted by state money, to increase the number.

But the great deficiency lay in the incompleteness of the system. There were great masses of children, especially in the large towns, who never went to school, for whom there was no school accommodation, many of whom could not or would not pay school fees, and whose case the voluntary societies were unable to meet. There were neither free schools to draw unwilling children, nor compulsory laws to drive them. Many went to private schools which were believed to be thoroughly bad.

After these decades of experiment there were several points established as necessary parts of a comprehensive system, and certain very definite evils to be cured.

"Payment by results" had sufficiently commended itself to be continued. State aids through voluntary societies and denominational agencies dependent

upon official inspection was also too deeply rooted to be overthrown. All, or almost all, were agreed that education should be religious and not exclusively secular, and a like proportion were willing to apply some safeguards against seriously forcing the consciences of parents or children. But there were differences of opinion as to whether schools should be free or a small sum charged ; as to whether there should or should not be compulsion ; as to how much and what kind of religious instruction should be given. The last was really the great battle.

It will not be necessary to go over the controversy. It will answer our purpose to explain the great compromise adopted in 1870, somewhat revised in 1876, 1880, and 1891, under the provisions of which popular elementary education in England is now given. It is not the conclusion of the whole matter ; other changes, which will probably tend toward simplicity and secularization, will come ; but it is interesting as showing the curious adaptation to national habits of thinking and living and to institutions already existing, of a new system introduced into the political life of the country. It is the sort of a task that English statesmen more often than those of other countries have to solve. That it has been successfully done in this case by William E. Gladstone and William Edward Forster is proved by the fact that under it England has been able almost to make good the ground she had lost as compared with other countries, and to show a progress which no nation in any score of years has ever sur-

passed. It would not suit any other country. There is too little of the autocratic idea about it for the Continent of Europe, too close an association of state and church for America. But England believes in local independence and a state church. The former belief she is not likely to lose, and, if ever the latter weakens, her board schools will serve as a type for future development.

The history of the growth of the system is one of greatest interest, not only to students of education, but also to students of political evolution. It is an epitome of what has been going on for centuries in English politics. Nothing has been created off hand, as was the American Constitution. Everything has grown, piece by piece, as new conditions demanded new legislation. Every new difficulty as it arose was honestly faced, and there is in the history of English education nothing of which the nation is ashamed. The rather slow growth is due to the intensity of religious feeling rather than to less worthy motives. The conservatism of the national character would give way in the face of manifest advantages in change. The results may not be brilliant or multifarious, but they are pretty certain to be thorough and good so far as they go. The English are not enthusiasts in education as happily many Americans are, but it would not hurt us to study the conditions under which they secure such manifestly good results in fundamental things.

CHAPTER II.

THE PRESENT CONDITION OF THE PUBLIC ELEMENTARY-SCHOOL SYSTEM.

The Act of 1870—Division of England into districts—Grants to infant schools—To schools for older children—School fees—Free Education Act of 1891—Rates—Donations—Summary of revenues—Public elementary school defined—Local independence—Inspection and inspectors—Grants given on general condition of the school rather than on the number of “passes”—Influence of inspectors—Arguments for and against “payment by results”—Raises salaries—Encourages dull scholars—Cramming—Neglect of heart and character—Produces a meager curriculum—Modifications made necessary—Infant schools and kindergartens—The seven standards—The subjects of instruction—Class and specific subjects—How much does a child of fourteen know?—Thoroughness of English work—Written exercises—Quality of teaching—School furniture—Provision for games—Compulsory attendance—Factory and truant Legislation—Evasion of laws—Too rigid and too lenient enforcement—Contrast with the United States—Necessity of compulsory laws for the United States—The religious question—English schools religious—Tendencies to secularization—Inefficiency of “conscience clauses”—Children forced to denominational schools—Catechisms—Recommendations of the Royal Commission—Statistics.

THE Act of 1870 divided England for educational purposes into districts, which were not necessarily conterminous with districts formed for political pur-

poses. It charged the Government with seeing that in each one of these districts there were ample provisions existing for the education of all children. If this provision was already made by voluntary schools, it protected these schools in their possession by preventing the establishment of any other.

If, however, the voluntary schools did not amply supply the need, it then enacted that the qualified electors of the district should institute a school board, and that this board should establish schools sufficient to give public elementary education to every child between the ages of 5 and 14 whom the schools already in existence did not educate.

It thus results that, in a great many districts, schools supported by the voluntary societies (Church of England schools, schools of the British and Foreign School Society, Wesleyan schools, or Roman Catholic schools) exist side by side with schools conducted by the elective boards.

Government grants go to all alike, on the basis of reports by her Majesty's inspectors. Various changes have been made in the details of these grants since 1870, but at present the system is about as follows:

For infant schools—that is, for schools for children under 7, there are given: 1. For average attendance, 9*s.* per head. 2. For merit, 2*s.*, 4*s.*, or 6*s.*, according to the quality of the school as reported by the inspector. 3. For needlework, 1*s.* 4. For singing by note (or by the ear), 1*s.* (or 6*d.*); making 17*s.* the maximum grant per child which can be secured by an infant school.

For schools for older children the grants are as follows: 1. A principal grant of 12*s.* 6*d.* or 14*s.* for the primary branches. 2. A grant for discipline and organization, 1*s.* or 1*s.* 6*d.* 3. A grant for the girls of 1*s.* for needlework. 4. A grant of 1*s.* (or 6*d.*) for music taught by note (or by the ear). 5. A grant of 1*s.* or 2*s.* for each of two subjects from the list, English, geography, elementary science, history, and needlework (for girls). 6. A grant of 4*s.* for each "pass" in a "specific subject." These specific subjects embrace higher knowledge, like algebra, chemistry, French, Latin, and book-keeping. 7. A grant of 4*s.* for cooking, and 2*s.* for laundry-work.

These grants would seem to aggregate a possible amount of about 25*s.* or 30*s.*, but it is further provided that the grant shall not exceed 17*s.* 6*d.* on the average attendance, except in case the private income of the school shall also exceed this amount, this restriction being popularly known as the "17*s.* 6*d.* limit."

The just apportionment of these grants, on the basis of this rather intricate arrangement, has necessitated frequent and detailed instructions to inspectors. The Education Department issues yearly a printed pamphlet varying these instructions from year to year as deficiencies in the system become manifest.

Evening schools are also encouraged by grants.

These Government grants have recently supplied about three sevenths of the income of the school. Until the autumn of 1891 the children themselves

have furnished a considerable portion of the remainder.

The amount charged the pupils depended on the board of managers of the school—the central Government merely fixing the limit which the school could not exceed if it also received a Government grant. This limit was 9*d.* per week for each scholar. As a matter of fact, the charges in a large majority of cases varied between a penny and sixpence per week and averaged about threepence. This yielded nearly two sevenths of the income of the schools.

This charge has been unpopular in certain quarters for a long time. It was claimed for it that many parents were able to pay, and that perfectly free schools would tend to destroy independence and make mendicants. On the other hand, it was urged that compulsory attendance and enforced payment, while not necessarily inharmonious, had a seeming incongruity to which many people would never reconcile themselves, and which tended to make education unpopular among the poorer classes. The advocates of free education increased in number and importance until it became necessary for political reasons to satisfy their claims; and in 1891 it was enacted that any school which should extinguish or properly reduce its fees should be entitled to a grant of 10*s.* a year for each pupil in average attendance between the ages of 3 and 15. Schools were not required to accept this grant. If their fees for the preceding year amounted to this sum or less, and they decided to take the 10*s.*, they were prohibited from making

any charge to parents. If their fees amounted to more than this sum, the acceptance of the grant made it obligatory to reduce fees by an equal amount. In the great majority of schools the grant would yield as much as the "school pence." The London School Board led off by making all its schools free, and its example has been followed by many others, so that practically England has at the present time, to a very large extent, free education, following the example of the United States, France, the most of Germany, and of the smaller states of Europe.

Some managers and parents prefer that the charge should remain, in order that the school should be kept more select. If they are willing to pay for this idea, the law imposes no restriction—so that free education in England is now a matter of local option. In Manchester the board reduced the fees by the amount of the grant, leaving some of them still pay schools.

After receiving the Government grants and the school pence, a deficiency still remained in the revenue of the schools. For the board schools this was to be supplied by local taxation. The amount needed was estimated, and the board levied a tax to obtain it. A large Government grant meant low taxes, hence there was a premium in many cases on good schools.

The voluntary schools could not, however, touch the local treasuries. Their deficiencies must be made up by private subscriptions. This is the price the religious bodies pay for the privilege of denomi-

national schools, and they have stood up manfully to their principle. About £750,000 a year has gone into the public education fund from private pockets for the last ten years, and the amount increases with the years. More exactly, the revenues of the schools for 1891 were made up about as follows :

From local taxes (for board schools only) ..	£1,320,000
Government grant.....	3,289,000
School pence.....	1,941,000
Voluntary contributions.....	759,000
Endowment, etc.....	266,000
Total.....	<u>£7,575,000</u>

This amount, divided by the number of scholars in average attendance, gives the income per scholar ; this amounts to £2 0s. 6½d. (about \$10), which sum also represents the average expenditure.

Thus it has come to pass that since September, 1891, the central Government has given to the schools more than one half the money needed for their support. It is therefore necessary that it should have proper guarantees that the schools are such as properly to be recipients of state aid, and that the money in such schools is judiciously expended.

To obtain the first object, the Act of 1870 defines the expression "public elementary school," and decrees that no school which does not fulfill the conditions shall have any money from the Government :

1. No child shall be admitted or refused admittance on account of his religious connection or attendance at any religious exercises.

2. All religious observances in the school shall be placed at the beginning or end of the day's work, and any child may be withdrawn from these by his parents without prejudice to his position in the school.

3. The Government inspectors shall have permission always to examine the school, but it shall be no part of their duty to inquire into or test the quality of any religious instruction given.

It is also enacted that no public elementary school shall charge more than 9*d.* a week as a school fee; that the head teacher shall have proper certificates; and that the number of teachers shall bear a certain ratio to the number of scholars.

These provisions are to secure the rights and privileges of the patrons. The Government, in order to insure the judicious expenditure of its money, further announces the subjects on which grants will be given, and the degree of proficiency necessary to be attained to warrant the money being paid.

The schools are local or denominational institutions. The state aids, not manages, them. It does not claim or exercise any inherent right to regulate education, and its supervision is based solely upon its contributions to the financial resources. The managers of any school may cut loose from the governmental connection at any time. They are supposed to be supreme in all such questions as the choice of teachers, text-books, and methods of instruction. The inspectors, in general, test results,

not methods; and though their contact with the school does frequently tend toward the encouragement of certain ideas of discipline and instruction, this is rather by accident than design. They have not, as have the American superintendents, any power to require the different schools to adopt a certain machinery, their business being solely to ascertain and report to the Education Department the efficiency of the school. Probably in no country is there so much local independence, and power to adapt the school to the needs of the community, as in England. Every school wishes to teach reading, writing, and arithmetic. These are encouraged by the general grant. A long list of subjects is given from which the schools may select for higher instruction, and which yield their pecuniary reward; while the whole field of knowledge outside of these specific subjects is before them if they do not care for the assistance of the imperial treasury. There is also probably more liberty for the teacher than in urban districts in the United States. The methods of instruction are not prescribed, and, while a principal may in some cases interfere, the teacher who can get "results" has a pretty free course.

The "Code" of the Education Department succinctly states that "inspectors are employed to visit schools to examine whether the conditions of the annual grants have been fulfilled, and to report the result to the department." It is a difficult task to perform their duties fairly and exhaustively, more so than would at first sight appear, and none but trained

men, with distinct instructions from a wise central authority, would be competent for the task.

They generally if not universally hold university degrees, and have been the recipients of "honours" on graduation. Recently the appointment of successful teachers as inspectors has been strongly urged, and in some cases has, I believe, been made. This would seem reasonable and right. Clergymen are ineligible to new appointments, though some hold over from the time before they were made so. The fact that there is so little complaint of the performance of duties on which so much depends is the best evidence of efficiency. The inspectors whom I have seen at work have gone at a school promptly and systematically, and, when they concluded their labors, had evidently a very thorough knowledge of the efficiency of its organization and instruction in the various branches. The examination depended on both oral and written questions, the former given to a whole class, and answered by a number selected at random from those who held up their hands. The questions were searching, and evidently the product of experience, and, while it was not ostensibly their business to train the teacher, no teacher could fail to learn by hearing the examination conducted.

In past times the number of children who could pass the examination was reported, and the grant made on the summation of the individual records. This led to numerous evils, and recent instructions are, "that the amount [of the grant] shall depend on the good character of the school, and on the qual-

ity of the acquirements of the great majority of the scholars, rather than the exact number of the children who attain the minimum standard of required knowledge." Instead of counting the number of "passes," the inspector reports the impressions which the room full of children as a whole have made on him as a result of his examination—a much fairer test of the teacher's work, and one that allows him greater liberty in teaching according to his own methods.

However, the inspector can very seriously modify the teaching of a school. Take, for example, these instructions: "You are to satisfy yourself that the reasons of arithmetical processes have been properly explained and understood. It is therefore desirable that you should very frequently ask the teacher of the class to give a demonstrative lesson on the subject; and he should so work out an example on the blackboard as to make the reason for every step of the process intelligible and interesting to the scholars."

This and other similar "instructions" are examinations of the teacher rather than of the class, and their object is to teach him how he may obtain grants in the future. There is probably an increasing tendency to depart from the idea that the duties of inspectors are to report results regardless of methods of attainment, and to extend cautiously the influence of the central department over the whole machinery of the school. Probably much is gained, from the educational standpoint, from this tendency.

With regard to the whole system of inspection and "payment by results," a strong controversy has been and still is raging. For it, it is urged that it is necessary for the Government to have assurance that the purposes for which so much public money is voted are secured; and the fact that so many of the schools are in private hands makes this all the more important. It is also said to be a guarantee against the tendency, which seems to be especially strong in English schools, particularly those most closely connected with the universities, to give too much attention to a few bright scholars at the expense of the duller ones; for evidently such a course would not satisfy inspectors and win grants. Its friends also claim that it is the cause, to a large extent, of the increase in salaries of teachers, and affords a certain means of informing managers as to the relative value of the different teachers, and thus enables them to graduate salaries in proportion to pedagogic or grant-winning abilities. It is certain that salaries have steadily risen under the operation of the system, that teachers hold a higher place in the estimation of the community, and that the best of them have a very handsome remuneration for their services. There is not the level of uniform compensation for teachers of a certain grade which prevails in most other countries, but the system often makes it economical to secure and retain good teachers, even at an advance over others who are doing, in an inferior manner, the same work.

On the other hand, the "cramming" which the

system produces is violently protested against. To meet the demands, real or supposed, of the inspector, education is sacrificed to the process of forcing into the scholars available and grant-compelling knowledge. Facts in geography, for instance, count for more than real brain-power in a test by an external examiner. The teacher is hampered in the adoption of methods which seem to him best, by the fear that they will not produce the kind of results which the Government inquires for, and the scholars are filled with a sort of knowledge which disappears as rapidly as it was gained. One hears many complaints that the children who leave school at 12 or 14 often lose almost all their school acquisitions in a very few years. This danger is fully recognized by the department, and inspectors are strongly urged not to lay too much stress on mere knowledge.

Another criticism of the system may be given in the words of R. H. Quick :

“Suppose that on leaving school we wished to forecast a lad's future. What shall we try to find out about him? No doubt we shall ask what he knew; but this would not be by any means the main thing. His skill would interest us, and so would the state of his health. But what we would ask, first and foremost, is this, Whom does he love? Whom does he admire and imitate? What does he care about? What interests him? It is only when the answers to these questions are satisfactory that we can think hopefully of his future; and it is only in so far as the school course has tended to make the answers

satisfactory that it deserves our approval. Schools such as Pestalozzi designed would have thus deserved our approval ; but we can not say this of the schools into which the children of the English poor are now driven. In these schools the heart and the affections are not thought of, the powers of neither mind nor body are developed by exercise, and the children do not acquire any interests that will raise or elevate them."

These questions of the development of character, of good habits, and of physique, can not be too strongly urged on the attention of elementary schools. Together they are more important than any intellectual attainments. They stand the wear and tear of life better, and do more to assist their possessor to prominence and success. If the system does not allow their encouragement, it is a severe indictment against it. It is unquestionably true that they do not count for very much in obtaining grants. It is also true that success in them is often very difficult to estimate. Probably the department is doing all it can to secure them. A grant for "discipline and organization" of 1s. or 1s. 6d. may be made, and the inspectors are instructed that they "will have special regard to the moral training and conduct of the children, to the neatness and order of the school premises and furniture and to the proper classification of the scholars." They are also to be satisfied "that all reasonable care is taken in the ordinary management of the school to bring up the children in habits of punctuality, of good manners

and language, of cleanliness and neatness, and also to impress on the children the importance of cheerful obedience to duty, of consideration and respect for others, and of honour and truthfulness in word and act."

This is excellent; and if under the system good teachers are allowed to get these results, even if to do it certain studies have to be partially neglected, there would be little left to desire.

It is also urged against the system that it cuts out certain studies of great value. The Government pays by the subject, and can not have too many of them. Thus, of the three, history, geography, and elementary science, practically only one can receive a grant, and it is pretty difficult often to decide which that one shall be. As many schools can not exist without the grant, they are thus much restricted, and the curriculum is made rather meager. This will be judged advantageous or otherwise by different people.

Then the system may tend to the over-pressure of the dull students, and the neglect of those bright ones who can be depended on unaided to satisfy the average demands of the examiner. But this is an objection which attaches to public education in other countries, and is difficult to avoid in any machinery which is at all systematic.

These arguments do not seem to have undermined the belief of most Englishmen connected with education that "payment by results" is advantageous or at least necessary for the present. They

have probably produced serious modifications, which have tended toward the idea that it is the work of inspectors to see that school officers do their duty, rather than to test very minutely the advancement of the individual scholar in special subjects. These modifications satisfy many of the objectors; and, though the clamor does not lack energy and volume, it is more likely to produce further modification than to cause the abolishment of the system as a whole. It is unquestionably effective in toning up many schools that would otherwise be bad, and it satisfies the Englishman's idea of fairness, and of the propriety of equivalence rendered for public money expended.

The schools are divided into "infant schools" and "schools for older scholars." The division takes place nominally at the age of 7, though it is a matter of advancement rather than of age. School life begins at a younger age than in America. In 1890 there were in the public elementary schools 5,887 children under 3 years, 140,855 between 3 and 4, 322,495 between 4 and 5, and 494,439 between 5 and 6; making in all nearly a million children under 6 years of age. The children have thus a start of from one to two years over American children, and at the age of 5 or 6, it astonishes one to find out how much they know. They could read, such as I saw, with considerable fluency easy sentences, their penmanship was very uniform and neat, and they worked mentally with quickness and facility questions in arithmetic put to them by the inspector

such as "How many legs would four horses and their driver have?"

The younger children attend kindergartens so called. It is probable that Froebel would not have recognized them as kindergartens, but the methods are at least good imitations of Froebellian methods. They are in reality ordinary schools for teaching the rudiments with some kindergarten attachments. With from fifty to eighty children, three or four years old, in a room under the charge of one teacher, it is impossible to have a kindergarten, and such classes exist. It is claimed by some educators that even where the circumstances are more favorable, the teachers have not been so trained as to enable them to appreciate and apply the underlying principles of kindergartens, and that the whole affair is a sham. On the other hand, it may be said that the expense of real kindergartens with from ten to twenty children under one thoroughly trained teacher, would be unbearable, and that the actual results obtained under necessarily imperfect conditions abundantly justify the methods employed. It is better for the little children to be at school through the day than in many homes, especially in the large cities. Considerable care is taken not to produce excessive stimulation, and to secure proper hygienic surroundings. The idea that children may and oftentimes ought to go to school at an early age seems established, and the problem of making the right sort of schools for them is being worked out. If not now, at least in the near future, a

system of efficient infant schools will exist; for the English do not often retrograde, and, when a problem has the right of way, a series of cautious experiments will bring it to its destination, slowly perhaps, but certainly. Infant education is now recognized as one of these vital problems to be solved. It was only in 1882 that the Code first required in these schools, besides the ability to read, write, and count, the giving of a course of object-lessons on natural things, which should be to some extent a manual as well as mental preparation for common life. This immediately increased the joy of school life for the little children, and also showed itself in better results in the rudiments of education. Since that time the development of the idea has been considerable, and the best infant schools are now good, while the others are improving.

The scholars over 7 are divided among seven "standards," standard I normally embracing those from 7 to 8, standard II from 8 to 9, and so on. Here, too, it is a matter rather of advancement than of age. A scholar of 10 may be in the sixth standard, and one of 12 in the fourth.

The subjects taught in these standards are the following:

Reading, writing, and arithmetic, needlework for girls and drawing for boys, are obligatory for all, and are continued more or less through the seven standards. Then there are certain subjects which are optional, as "class subjects"—that is, the whole class may have them or omit them.

These include English, geography, elementary science, and history, only two of which can be taken by any class.

Individual children in the upper classes may also take two subjects from the list of "specific subjects," which are algebra, Euclid, mechanics, chemistry, physics, animal physiology, botany, agriculture, Latin, French, domestic economy (for girls), German, and book-keeping. Considerable attention is paid to singing, and to recitation from standard authors, and the girls in many schools have opportunities in cookery and laundry-work.

The whole of the above list is, of course, not possible for all schools. It expresses the ideas of the Education Department as to what subjects are worthy to be encouraged by grants. The actual curriculum taken by the great body of scholars is quite meager, embracing, besides the three standard subjects, little more than English, geography or history, singing and recitation, and drawing or needlework. The list of "specific subjects" is quite imposing; but in 1890, of the nearly 5,000,000 children on the school registers, the number examined in these was but a small proportion of the whole, as the following table shows:

Algebra.....	30,035	Botany.....	1 830
Euclid.....	977	Agriculture	1,228
Mechanics.....	11,662	Physics	3,476
Latin.....	360	Domestic economy....	23,094
French.....	7,232	Other subjects.....	611
Animal physiology....	15,842		

Assuming that each scholar took a different subject, only about one in fifty was taking anything from this list, the remaining 49 being satisfied with the mere rudiments of education as embraced in the elementary and class subjects. It will probably be admitted by most of those who are entitled to form a judgment that for children who drop their education at from 11 to 14, as practically all these children do, it is better to do thorough work on a few lines than to be superficially instructed in more; whether any additional subjects should be made obligatory, or further encouraged by grants, is a question which fairly admits of opposite opinions.

A boy, then, who finishes the seven standards, has at the age of 14 a very thorough if circumscribed elementary education. The extent of his acquirements may be approximately estimated by the examinations given by the inspectors. At this stage of his development he is expected to read a passage from Shakespeare or Milton, to write a reputable "theme" or letter, and to know arithmetic, embracing fractions, proportion, interest, percentages, and stocks. Assuming that his class subjects are English and geography, which is nearly always the case, he must be able to parse and analyze ordinary sentences, give the definitions of the common prefixes and terminations, and have the principal facts of political and physical geography. In the "specific subjects" he may have mastered two, the most popular of which are algebra, including simple and easy quadratic equations, and a good elementary course on human physiology. He has

been taught to sing and to draw, and has committed to memory and recited certain passages from "Shakespeare or Milton or some other standard author." The girls have done the same, except the drawing, and have had extended instruction in needlework, and probably also in domestic economy and cookery.

This is the course for those who complete the seven standards, which is, each year, about one thirtieth of the whole number of students, instead of one seventh, as would be the case if they all would remain. The others drop out at varying ages from 10 upward, and, on account of the lack of public secondary schools, an extremely small proportion of them ever receive any further instruction.

If this programme seems scanty, it is well wrought out. The fact which will probably impress an American visitor most strongly is the *thoroughness* of the work done in most English schools. Points are insisted on again and again until completely mastered. Progress is of less importance than accuracy. It may be assumed that any school which has been favorably reported upon by an inspector has faithfully done the work which the Government requires. It also seems to me that this school has got the results which come from painstaking drill better than the average American school dealing with children of the same age. There may be less vigor and enthusiasm in the teaching, but more of steady, plodding repetition.

One instance may suffice to illustrate. A large amount of written work is required of the children, and a very high standard of neatness is expected. The examples in arithmetic are written and worked out in ink in blank-books, which are carefully preserved. The parsing and analysis exercises are similarly copied, important words being underscored with red ink. Geography is often treated in the same way. The copy-books are wonderfully neat; and when the name of the scholar and date of the lesson are appended to these exercises, and sundry red and blue ink lines are artistically added, many of the books are well worth a careful inspection, and almost none of hundreds that I saw was actually slovenly. A blot, or a crooked line, or improper spacing, would tell heavily against the careless or awkward child. The pride in these efforts was clearly shown by the care with which the exercise-books would be preserved after they had served their purpose, and the habit of neat execution of pen or pencil work would doubtless wear the attacks of time still better. I do not think American schools in general have nearly so high a standard in this respect.

In other respects American schools are probably superior. New methods are more quickly taken up here and more vigorously tested. Many old customs still linger around the English schools. For instance, there are many cases where oral spelling is still taught. Here, almost universally, I apprehend, this has largely given place to exercises in writing words.

Old text-books used here 20 or more years ago and long since discarded are still in vogue. This last is not necessarily a point of inferiority, but illustrates this striking difference, that, whereas in America there is a presumption for the new, and school authorities are afraid of the charge of "old-fogyism," in England there is, if not a positive presumption for old things, at least a very definite unwillingness to change, unless evident advantages are in sight.

There seems to be less tendency than with us to insist on committing to memory rules and facts and verbal illustrations. Nothing is prescribed in the Code, except lines from Milton, Shakespeare, and other standard authors.

With regard to the general quality of the teaching, the impression a visitor receives is that it is good, showing the results of the careful special training of the teachers. There are probably fewer weak places than in the United States, but I did not see in a large number of visits teachers that seemed to me equal in energy and life to the best of the teachers here. I should also infer that in many cases they were of a lower rank socially. I have often congratulated myself that, whether our poor children were learning their lessons or not, it was a good thing for them to come into intimate relations for several hours daily with such lady-like teachers as one often sees. The same fact did not impress me so strongly in England, and I was informed that social laws did not permit young women of a certain qual-

ity of birth—daughters of clergymen, for instance—to teach in the elementary schools.

In the matter of school furniture the effect given is in many instances of great simplicity and even rudeness. In the best elementary schools, especially board schools in the large cities, everything necessary, with one exception, is apparently supplied. But, in an unexpectedly large number of cases, benches without backs, old-fashioned desks, and limited appliances, exist. The one exception in the good schools is the blackboard. The use of the blackboard for extensive illustration by the teacher, and for setting to work profitably in public a whole class of children, does not seem to be recognized in England. One meager board exists alone in many otherwise typically furnished school-rooms.

One can not too much admire the liberal provision made by managers for the children's plays. Almost every town or village has its "recreation-ground," supported by public money, and open at all times to school-children. In addition, each school has play-grounds, which are, where land is not very expensive, ample, and liberally supplied with equipment, and even in London it is seldom, if ever, that a good-sized paved tract does not exist. In all grades of English schools more provision is made, than in the corresponding grades with us, for the sportive tendencies of boys and girls. The sooner we learn the same lesson the better it will be for the physical, mental, and moral welfare of our nation.

The idea of compulsory attendance is firmly im-

planted in English legislation and practice. The act of 1870 gave school boards the power to make by-laws requiring attendance. This was still, however, entirely optional on the part of the boards, and in many districts there were no school boards, the whole provision for education resting in the hands of the managers of voluntary schools. To meet this condition a new set of elective local authorities was established called "school-attendance committees," who in the absence of school boards were authorized but not required to make by-laws compelling attendance. This option allowed localities to decide differently as to the advisability of the use of compulsion. It was not till 1880 that it was made obligatory on all school boards and school-attendance committees to adopt regulations providing for universal attendance, and to enforce their provisions. Certain districts vigorously opposed this, but the public sentiment of the nation demanded it, and that sentiment has since strengthened, so that no one now thinks of overturning it.

The factory legislation of the country, prohibits the employment of children under eleven years of age, and between eleven and thirteen, except on half-time; that is, they must go to school half of each day or on alternate days. This, combined with the direct educational legislation, makes the requirements in effect as follows:

All English children are compelled to attend school after the age of five years until they have passed the standard fixed by the local by-laws.

This varies in different parts, but is usually the fifth or sixth standard, when the child is on an average twelve or thirteen years old. If, however, the child is a bright one and can pass this standard at the age of eleven, he may be withdrawn from the school and placed at remunerative work on half-time for two years. At thirteen all compulsion ceases, unless by that time the child has not passed the fourth standard, in which case he must attend a year longer.

This regulation is strictly enforced. A parent whose child does not attend regularly and who has no good reason for absence, is liable to a fine not exceeding 5s. If the parents are drunken and neglect their children habitually, or if the children have fallen into criminal habits, they may be committed to an industrial school, where they are kept for a greater or less time, educated, fed, and in some cases housed at night. These schools are not popular. The parents are expected to pay 2s. a week, but this, from such parents, is very difficult to collect, and parent and child are often willing to promise regular attendance at an ordinary school as a condition of release. Often the poor look on industrial schools as prisons, which indeed they are.

Truants schools are of a slightly different order, being intended for children who have thrown away parental control. These children are kept for brief periods under stringent discipline. They may be committed to these schools until they are fourteen or even sixteen years of age, but are often allowed to go back to their day-school after a few weeks'

stay, on the condition of regular attendance and good behavior, which privilege they forfeit, if the conditions are violated.

It is pretty difficult to evade these laws. The first attempt is to keep the children off the school lists, and the nomadic character of the lower classes of London renders this sometimes difficult to detect. Children are hidden away upon the approach of officers and their existence resolutely denied. Once on the lists, the only escape is feigned illness. Many and ingenious are the artifices employed. A child found wading in a pond gave bronchitis as a reason for non-attendance at school, while head and other aches, violent under observation, but suddenly disappearing, are not infrequent. The laws are said to be very unpopular with a limited class, who can not understand why they should be forced to educate their children against their will, and in addition (until 1891) to pay the school pence. The existence of this class is the excuse for the compulsory law, which will probably, as has been the case in Prussia, in time extinguish it.

More respectable are the objections of those who, while admitting the necessity of compulsion, complain of the sweeping character of the laws, and the strictness of their enforcement in many places. From the age of five, every child must attend twice a day, five days in the week, through the whole school year. Irregular attendance as well as truancy renders a parent liable to fine, and school boards are invested with great powers, which they

must exercise, to detect evasions of the law on the part of children or parents or employers.

This is in strong contrast with the methods in the United States. Though all our schools are free, only about one half the States have any compulsory laws, and of these only a very few rigorously enforce them. The presence of a large number of ignorant negroes and foreigners, who will not use even free schools, and the fact brought out by the census of 1890 that illiteracy is growing faster than the population in some States, are strong arguments for strictly executed compulsory attendance laws. They seem to be the only safeguard we have against falling to a secondary place in educational standing. Practically all the European states north of the Mediterranean peninsulas and west of Russia are satisfied as to their efficacy; and we can not depend any longer with safety on *drawing* to our schools, even though we make instruction, books, and stationery free, the whole of the child population which ought to be at school. Without the immigration of the past twenty-five years we might have done this, but that has wholly changed the conditions.

Compulsory education usually makes itself unnecessary after a few decades. If a whole generation of men and women can be educated, they do not need much pressure to induce them to send their children to school. Ignorance tends to perpetuate itself and so does education. In a permanent population the necessity for compulsory laws ought gradually to disappear. The first step is the difficult and the impor-

tant one. England has taken this step, and taken it with an emphasis which admits of no doubt that she means never to go back again. We have not. We have tried the other expedient of encouragement, but evidently this is not sufficient, and, before illiteracy further gains on us, we should seriously consider whether the welfare of the state does not demand that we should follow the course which France took so tardily, and England more tardily still, but which, once taken, no country has ever repented of.

Besides complaints of the too rigid enforcement of compulsory laws in some parts of England, there are probably stronger complaints entered against their too lenient enforcement in others. School boards and attendance committees are said to be inattentive to their duties, and magistrates too easy in committing delinquents.

Notwithstanding various sources of weakness, the Royal Commission of 1886-'88, which made an exhaustive inquiry into the subject, reported that compulsion had unquestionably increased the attendance in three ways: by its direct influence on parents; by the disgrace a parent feels at being brought before a magistrate; and by the fact that the completion of a certain standard would allow the child to be placed at remunerative work.

Taking England over, the average attendance is about seventy-eight per cent of the number on the school register; but as this number includes many children under five, to whom the compulsory laws

do not apply, it is probable that eighty-two per cent would more correctly represent the average attendance of children above this age.

That a great many children drop out of school as soon as compulsion is withdrawn is shown by the fact that, while up to eleven, the number on the school registers was, in 1890, about 550,000, between eleven and twelve there were only 497,000, between twelve and thirteen only 377,000, and between thirteen and fourteen only 157,000.

We have seen that the great point of controversy which, as showing the importance attached to the subject, has dignified the educational legislation of England, but as standing in the way of advance for fear of partisan advantage has belittled it, has been the religious question. The act of 1870 left the religious bodies in full possession of the field they had already acquired, but after a short period of warning gave the right of way, so to speak, to the school boards. The board schools can not be said to be irreligious. In this country we would say they were religious. Many of them, those of London, for instance, have carefully considered schemes for religious instruction. The Commission of 1886-'88 reported that only seven school boards in England had entirely dispensed with religious instruction, and these were generally in country districts where Sunday-schools largely supplied the deficiency. The Bible is read daily in nearly all the schools, and in the great majority of cases the religious education of the children does not cease with this. Hence, it

is safe to say that religion and morals, with the consent of the great body of the English people, are made a part of the school programme of instruction. Nor is this instruction confined to natural religion, and natural ethics. The Commission adds, "We are persuaded that the only safe foundation on which to construct a theory of morals, or to secure high moral conduct, is the religion which our Lord Jesus Christ has taught the world." The English schools are not only religious but Christian.

There are many Englishmen who advocate the secularization of all schools which receive public money. Among these are ardent advocates of the views of the various religious bodies. They claim that better secular work and more loyalty to the school system would be produced by this; that religious instruction is a matter which belongs to the home and the Sunday-schools; and that teachers selected for other considerations are usually unfit to give it. It does not appear that, except in Birmingham, these views are held by a very large section, though the religious question is prominent in many school boards. As long as the temper of most communities remains as it is, it may safely be asserted that religion will be as conspicuous a subject in the English programme as the absence of it is in the French, and that voluntary and board schools alike will consider its retention, in some form or other, a necessary part of their duty. The difference between the two classes of schools consists in the fact that, while the voluntary schools ostensibly teach Chris-

tianity as their own religious body sees it, the board schools are prohibited by law from doing this, and teach Christianity so far as they can teach the points on which all are agreed.

But these schools are all supported by taxes paid by the whole community—the board schools almost exclusively, by Government grants and rates (local taxes), the voluntary schools by Government grants alone. Hence, the consciences of the tax-payers must be safe-guarded. This is attempted by the assistance of the “conscience clauses,” which provide that no child shall be refused admission on account of religious connection or attendance, that the school programme shall be so arranged that the religious exercises shall come at the beginning or end of the school day, and that every child shall be excused from them without detriment to his other standing. It is also ordered that inspectors shall not examine in this subject, nor shall any grants be given for proficiency in it.

This seems about as far as legislation can go to make a system, which in two thirds of its schools is avowedly a denominational system, satisfactory to every one. Nevertheless, many people claim that the “conscience clauses” are ineffective. If there are both board and voluntary schools in the district, all patrons should be satisfied. In many cases, however, the schools of one denomination, generally the Church of England, have possession of the whole educational provision of the district. No board school is allowed to be established, and the compul-

sory laws require the attendance of nonconformists at existing schools. If the management is liberal, and the parents feel free to withdraw their children, not very much objectionable pressure would be brought to bear. The young people of that district who were nonconformists would have no chance to secure positions to teach near their homes, and many cases have been recorded where teachers have been employed or discharged, with reference to their abilities or faithfulness as organists in the church, or as teachers in the Sunday-school, or on account of their personal relations to the minister (in whose hands the appointment often practically lies), rather than to any merits or demerits which they may have possessed as teachers of public schools. These are, however, local grievances.

Another cause of complaint exists when the managers or teachers of the school are bigoted or excessively forward in their denominational zeal. No conscience clauses can then be effective, nor can denominationalism be confined to the formal religious exercises from which the children may by law be withdrawn. Take, for instance, the school which requires children to learn the following catechism—and it was recently stated in Parliament that it had a considerable circulation for this purpose :

“Q. We have among us various sects and denominations who go by the general name of Dissenters. In what light are we to consider them ?

“A. As heretics ; and in our Litany we expressly

pray to be delivered from the sins of 'false doctrine, heresy, and schism.'

"Q. Is, then, their worship a laudable service?

"A. No; because they worship God according to their own evil and corrupt imaginations, and not according to his revealed will; and therefore their worship is idolatrous.

"Q. Is dissent a great sin?

"A. Yes; it is in direct opposition to our duty toward God.

"Q. But why have not Dissenters been excommunicated?

"A. Because the law of the land does not allow the wholesome law of the Church to be acted upon.

"Q. Is it wicked, then, to enter a meeting-house at all?

"A. Most assuredly; because it is a house where God is worshiped otherwise than he has commanded, and, therefore, it is not dedicated to his honor and glory; and besides this, we run the risk of being led away by wicked, enticing words. At the same time, by our presence we are witnessing our approval of their heresy, wounding the consciences of our weaker brethren, and, by our example, teaching others to go astray."

A school tempered with such a spirit as this, where the children of noneonformists would be made to feel that it was believed by their teachers and associates that their own parents were out of the pale of true religion, could not be a satisfactory

or even a tolerable school, no matter what conscience clauses existed. And yet the laws take the parents' money to support it, and compel them to patronize it.

Happily, such instances are rare. The catechism in question would be pronounced ridiculous by most members of the Church which it professes to represent. The great body of voluntary school managers are liberal men, anxious to be tolerant, to give equal advantages to all, and to accept in good faith the responsibilities thrown upon them, and carry out in spirit as in letter the laws of which they are the administrators.

Probably the opinions of most Englishmen who have thought on the subject of public religious instruction would be expressed by the propositions of the Royal Commission, previously referred to :

“1. It is of the highest importance that all children should receive religious and moral training.

“2. The evidence does not warrant the conclusion, that such religious and moral training can be amply provided otherwise than through the medium of elementary schools.

“3. In schools of a denominational character, to which parents are compelled to send their children, the parents have a right to require an operative conscience clause, so that care be taken that children shall not suffer in any way in consequence of their taking advantage of the conscience clause.

“4. Inasmuch as parents are compelled to send their children to school, it is just and desirable that,

as far as possible, they should be enabled to send them to a school suitable to their religious convictions or preferences."

As regards the relative management of the board and voluntary schools, the commission says: "If it be asked under which system of management that branch of administration which can be transacted outside the school is most vigorously conducted, it would be impossible to deny the superiority of the school board dispensing the money of the rate-payers. If, however, we look for the closest supervision of the school and the most effective sympathy between managers and teachers, or between managers and scholars, we would feel, on the whole, bound to pronounce in favor of the efficiency of voluntary management."

It remains to add some figures giving the extent of the work the public elementary schools are doing. In 1890 there were inspected 19,419 schools, which furnished accommodation for 5,539,285 scholars. There were on their registers 4,804,149 names, and in average attendance 3,717,917 children. The board schools were on an average larger than the voluntary, and supplied accommodation to a little more than one third of the whole number of children. Of the voluntary schools, those connected with the Church of England educated about five sevenths of the children, in 11,922 schools. Of the others, 557 schools were Wesleyan, 946 Roman Catholic, and 1,365 British or undenominational. It cost £1 16s. 11½d. (about \$9.10) to educate a child in the voluntary schools,

and £2 5s. 11½*d.* (about \$11.30) in the board schools.

The census shows that the number of children between three and thirteen is 24 per cent of the total population. It is estimated that six sevenths of this population belong to the classes who patronize the public schools. After making allowance for necessary absences, it is usually considered necessary to supply school places to one sixth (in some districts one fifth) of the whole population. In London the growth of the population requires the addition of about 11,000 new school places each year. The number of half-time scholars was 175,437, nearly all in the manufacturing districts. There were 43,347 scholars in average attendance at the night-schools. There were 46,539 certificated teachers, and 21,784 assistant teachers.

CHAPTER III.

THE TRAINING OF TEACHERS.

Pupil-teachers—Advantages in future examinations—Grants for pupil-teachers—Queen's scholars—Training colleges—Life in training colleges—Course of study—Quality of work—Certificated teachers—Importance of educated teachers—Training of teachers for secondary schools—Advantages of training—Maria Grey training college—Cambridge training college—Gilchrist educational trust—University of London teachers' examination—College of preceptors—Examination of schools—The teachers' guild—Professional spirit—Honesty of English work—Increase of influence, and salaries of teachers.

THE regular training of teachers for the public elementary schools usually begins at the age of fourteen, when they have finished the seven standards prescribed by law. They are then apprenticed for a term of four years, and become "pupil-teachers." During this time they are in the school-room giving such assistance as they can, which gradually becomes more valuable and less routine as experience increases. The amount of time given to this is limited by law to twenty-five hours a week, and they are to receive a small stipend, and instruction to the minimum amount of five hours a week. They are examined yearly, and it is provided that a failure

may require the extension of the period of apprenticeship.

This system is a substitute for the monitorial system of Bell and Lancaster, and is an importation from Holland. It enables the novitiate to be sustained in the profession, and to spend not unprofitably the years between the age when he can go cheaply to school and the age when his mental maturity will justify his assuming the responsibilities of teaching. It undoubtedly produces teachers of considerable professional dexterity at a very slight cost. The tricks of discipline and instruction, which do much to make school life run smoothly, are, in a good school, well learned. Whether the four valuable years of the life of a young teacher, from fourteen to eighteen, are spent to the best possible advantage in acquiring these, is a matter about which English authorities are divided, and which most foreigners would probably answer in the negative.

An effort has recently been made to overcome some of the disadvantages of the pupil-teacher system, by grouping the pupil-teachers from several contiguous schools, at certain times out of school hours, for the purpose of attending more carefully to their intellectual development. This is only possible in towns, but has, where fairly tried, produced good results.

At the age of eighteen a final examination is given to the pupil-teachers and other applicants, the passing of which gives them the privilege of teaching as "assistant teachers." The advantage which the

pupil-teacher has over other candidates at these examinations is shown by the proportion of failures. In 1890 there were 6,941 candidates, of whom 6,294 were pupil-teachers and 647 were not. Of the former, 1,810, or 29 per cent, failed; of the latter, 413, or 64 per cent. It would also seem that the pupil-teachers trained in board schools have a great advantage over those trained in voluntary schools. In 1891, of the first 100 males, 69 were from board schools; and of the first 100 females, 88 were from board schools. The successful candidates are known as "Queen's scholars," and are divided into classes according to their proficiency. Of the 4,718 successful candidates mentioned above, 1,374 were of the first class, 2,743 of the second, and 601 of the third. These may now accept subordinate positions. It is better, however, to continue training.

For each pupil-teacher who passes a "good" examination the school is entitled to a grant of £2 the first year, £2 the second, £3 the third, and £5 the fourth year; and for each pupil-teacher who passes a "fair" examination, the school may receive £1 the first, £1 the second, £2 the third, and £4 the fourth year. The number of pupil-teachers is limited by law to a certain percentage of the whole number of teachers employed. There are about 30,000 in England and Wales. This part of their life is a true apprenticeship, to which we have no counterpart in the United States in the teaching profession.

The next step is to make the attempt to enter a

“training college” for a two-years’ course. The Queen’s scholars of the first class (i. e., those who pass “good” examinations), have no difficulty. All of the others can not succeed, for the capacity of the existing colleges is far too small to allow it.

The training colleges are supported by the voluntary societies, and might at any time close their doors if their governing bodies so decided. They receive from the state about £40 a year for each Queen’s scholar whom they educate. There are 43 training colleges—17 for men, 25 for women, and one for both. They have a capacity to educate 3,200 students, and as their course is two years, this opens the way for 1,600 Queen’s scholars (out of 4,700 eligible), 700 men and 900 women, to be admitted each year.

The best colleges are thus enabled to fill their places by taking first-class students almost exclusively. The inferior colleges, and those farther from London, will accept the best of the remainder ; and in all cases the list, after being first culled by the examination, is again subjected to the elimination of the weaker portion by the college requirements for admission. The applicants rejected by the colleges may make another attempt a year later, or may take subordinate posts as teachers.

With the exception of a few day training colleges, just originated, and not included in the above, all the colleges board their students, and, so far as I have seen them, the arrangements for living are very pleasant. It would seem that the two

years spent in them would be a cheerful oasis in the life of a young teacher. He has had four years as pupil-teacher, which can not have been altogether happy years. There follows in many cases the inevitable drudgery of the routine work of a great public-school system. But here are two years when the student is comfortably boarded and efficiently educated, under inspiring teachers and with congenial associates, with no responsibilities except to acquire knowledge, and plenty of opportunity for healthy physical and mental development.

In return for the financial assistance the Government outlines the course of study, or "syllabus," and conducts the examinations. These are slightly different for male and female students. For the former, it is required that they should read with correct modulation and delivery long or involved sentences, and should have learned the first year 300 lines from Milton, Byron, Wordsworth, or Tennyson, and the second year 300 lines from Shakespeare; that they should write a satisfactory hand; that they should know the general principles of teaching, the methods of keeping school registers, the laws of health as applied to school premises, scholars, and teachers, and have mastered Chapters I and II of Herbert Spencer's *Education*—some of the above being tested by teaching a class in the presence of the inspector; that they should have some knowledge of analysis and grammar, write satisfactory exercises in composition, and understand the language, style, and contents of certain standard English books; that

they should know the main facts of political and physical geography, the outlines of English history, and elementary ideas concerning political economy; that they should in mathematics have studied something of arithmetic, algebra, and Euclid, and in music the principles of the staff and tonic sol-fa notation. Drawing is also taught, and one or two languages, which, though option is given of four, seem to be practically Latin and French.

The course for females differs from this in omitting algebra, geometry, and political economy, and substituting domestic economy and sewing and cutting out. But one language can be taken by young women, and this one seems to be almost universally French.

In addition to these there is teaching in science, in preparation for the South Kensington examinations.* This is embraced much more largely by the men than the women. They take higher mathematics, mechanics, physics, chemistry, physiology, botany, physiography, and agriculture, while the women content themselves with the last four only.

There is every reason to believe that the teaching in the training colleges is efficient, the students zealous, and the examinations searching and thorough. The necessity to remedy the previous deficiencies of education makes it advisable to give a large amount of time to general studies of an informatory and disciplinary nature, at the expense of the more purely

* See Chapter VI.

technical work, which the colleges are especially supposed to provide.

The instruction in the colleges, so far as I heard it, was very good. It was, however, nearly all given as lectures by the teacher, the students taking notes. The free question-and-answer method of conducting a "recitation," so common in America, was but little used. That lectures would have been very appropriate for students of the age of these, in the acquisition of a general education, may well be granted. But, for young teachers in preparation for work in the elementary schools, it might be better to conduct the class exercises, so much as might readily be, in the same manner as it would be proper for them to teach a class of children. One of the strongest pieces of equipment of a young teacher is a vivid recollection of the methods employed in teaching him. If those methods were good and successful, the imitation which the teacher will make, consciously or unconsciously, will also be productive of good; if they were vicious, the early efforts of the young teacher will be tinged with their defects; and if they were wholly incapable of adoption in the changed circumstances, the efforts of the tyro will be uncertain and weak.

This defect of the training-college instruction, if it is a defect, is probably remedied by work in practicing schools, which are attached more or less closely to all, or nearly all, the colleges. These are frequently better-class public elementary schools, which the elastic English system allows any training

college to establish or adopt, and which, with the Government grants, are usually self-supporting.

The student spends several hours daily for about three weeks each year in these schools. It is sometimes arranged that the principal of the school is the teacher of method in the college, and in this double capacity he is able to see that the practice is really worth something while safe-guarding the interests of the children. The work of the students is criticised, weaknesses and defects are pointed out, and correct principles and methods indicated. This is a very valuable part of the training, concerning which the only criticism that can be made is that there is too little of it—much less than in good normal schools in America.

When the student leaves the training college after two years' study, he is examined by an inspector, and, if successful, receives a certificate of the second class. This enables him to teach as a "certificated teacher." Those who have come up through the ranks of pupil-teacher and assistant teacher, without going to a training college, are also allowed to take this examination if over twenty-one years of age. After having been teaching for ten years, a new examination, covering both theory and practice, may raise the certificate to one of first class. Of the certificated teachers, those who have been "trained"—that is, who have spent two years at a training college—now number a little more than half the whole corps, and the proportion is yearly increasing.

At the time of leaving the training college the student is twenty years old. He has been preparing to teach for six years, and is capable of doing very good work. The cost of educating him has been comparatively slight. If, however, his general education had been continued to seventeen and then two or perhaps three years of special training had been given with plenty of work in practicing schools, and frequent visits to other good schools, there is every reason to believe that he would have been equally skillful as a teacher, and of far greater intellectual power. The cost would have been slightly greater during the years from fourteen to seventeen. There are in England no state-supported schools which he could attend, and the absence of this provision for secondary instruction is probably the cause of the continuance of the pupil-teacher device.

The danger of half-educated teachers in elementary schools lies partly in the fact that they are more likely to settle contentedly down into a mechanical performance of their routine duties. They are more likely to neglect the responsibilities which belong to them, to give their pupils the basis of a good character and a healthy desire for knowledge which shall outlive school days. They may be excellent teachers of the main subjects for which schools receive Government grants, and yet have but a slight conception of these higher duties. The better a teacher is educated, the more he will be likely to be dissatisfied with the low ambition of his pupils; and

if his conscience is awake to duty, he will stimulate at least a few of them to a higher life.

Very little provision exists in England for the training of teachers for any schools except the elementary. A few years ago an attempt was made to start a school for the training of masters for the great public and grammar schools preparing boys for the universities. But lethargy, or a disbelief in the necessity of training on the part of employers, prevented it from receiving the cordial sympathy of the schools, and it died for want of support. The College of Preceptors, an organized body of educators, is now engaged in accumulating funds for the purpose of renewing the attempt. When the new college is opened, it is expected that it will be so strongly supported financially that it will be able to stand a temporary unpopularity and prove the utility of its work. It is probable that the growth of public sentiment on the question will, however, insure it the patronage to make it successful from the start.

The higher the grade of a school, the less important technical training becomes in comparison with education and other factors which go to make up a successful teacher. One great advantage which it will yield, however, to all teachers of all grades, is an increased interest in the work of teaching, and an alert mind toward all chances of improvement. It is very possible to satisfy one's self with certain methods which have proved themselves fairly satis-

factory, and go on year by year without expecting or desiring anything better. A good training course would tend toward testing methods by psychological principles, and toward keeping the mind open to systems and artifices employed elsewhere, and would thus keep the teaching in a continual state of progression. One well-trained teacher introduced into a school will often waken up a whole staff, and bring it out of a stagnation of methods not uncommon probably in English secondary schools. The work of such a teacher will be a spur to his associates and a pleasure to himself; and if the employer is seeking good teaching rather than other qualifications, he will be amply repaid for the time and money spent in preparation.

Granting for a moment that teachers are no better for training; that they are born, not made; that experience is the only school worth anything; that training develops machine-like methods, and all the other criticisms we sometimes hear, still training would more than pay for itself if only it gave teachers an idea that there is a theory of education, and that there is a literature of education. These will make the daily duties of a teacher matters of daily and ever-increasing interest. The continual effort to apply the theory and to keep pace with the literature will prevent him from succumbing to the temptation of stagnation. It will always be a pleasure to converse professionally with fellows, to read of what others are doing, to watch the new developments of method and science, to mark

the growth of child-mind which attends a new scheme of work.

And this idea of a theory and literature of teaching is not only a source of perennial interest and life to the teacher himself; it vastly increases his usefulness to the school, and his consequent chances of promotion. He takes an intelligent interest in the school, is a more valuable member of a living whole, and no longer a mere cog of the wheel.

But while there is no provision in England for the training of male teachers of schools of a grade higher than elementary, there are two successful training colleges for women teachers.

The *Maria Grey Training College* of London has been in operation since 1878. The training course lasts one year only, though students are also admitted to a preparatory course of one year, if they intend to remain to complete the full programme.

To enter the upper or training division, the candidate must be nineteen years old, and have passed an examination implying considerable proficiency (e. g., pupils' examination of the College of Preceptors or the university senior local examinations).

The work of the training year is not at all devoted to general education, but exclusively to technical instruction by competent lecturers, to work with practice classes, and to visits to schools of varied ranks and purposes. The object is to teach the principles of education and the methods of teaching. The lectures treat of psychology, physiology, and

the history, theory, and practice of education. A practicing school is connected with the college, and an exercise greatly valued is to have one of the students conduct an exercise with the children while the others make critical notes, to be afterward discussed under competent direction. The students are wonderfully keen and earnest, and the spirit of the college all that could be desired. The college does not examine, but prepares for the examinations of the universities. Of 250 students presented in the last ten years, 213 have received full certificates; and these, almost without exception, hold honorable places as teachers.

The charge for tuition in the lower division is £24 (\$120), and in the upper division £30 (\$150).

The other normal school for women of high grade is the *Cambridge Training College*. Though not connected officially with the university, its situation enables its students to attend certain university lectures and to employ to a slight extent the services of university professors.

The course is one year, strictly technical, and includes the theory of education, school hygiene, psychology, logic and ethics, art of teaching, history of education, elocution, singing, drawing, calisthenics, *slöjd*, and practical work. For the latter purpose a number of Cambridge schools, containing in the aggregate some 1,600 children, are accessible. A high standard of admission is required, and all students are expected to board with the principal. For the year of thirty weeks a charge is made for tui-

tion and residence, varying with the room, of from £54 (\$270) to £70 (\$350).

An exercise of the college which is considered valuable is to have a student appointed to give a talk on some subject—e. g., “Describe a place actually seen” or “Not actually seen, but a description of which has been read”; “Tell a story to illustrate a certain point”; “Explain the meanings of certain words.” The other students, who constitute the class for the occasion, criticise the exercise, and an impromptu discussion follows.

Though these two colleges are not large, they are well officered and supply a great need. The benefits received by the students are more and more widely recognized, and this recognition will assist in breaking down the prejudice against trained teachers which among the secondary schools of England is quite strong. Their success will pave the way for similar institutions for young men in the near future.

The two training colleges have the privilege, accorded by the “Gilchrist Educational Trust,” of awarding in alternate years a “travelling scholarship” of £50 (\$250) to a student who has passed the teachers’ examination of the University of London or of the Cambridge Syndicate for the Training of Teachers, and has had two years’ experience in teaching in schools above the grade of elementary. The recipient must spend the year in visiting the schools of some foreign country approved by the Trust.

The University of London offers no course of lectures, nor does it give instruction in any branch.

It will examine candidates who present themselves under certain prescribed regulations, and grants degrees to those whose attainments reach the proper standards. By rigidly adhering to a high standard its degrees and certificates are made to possess a great value.

To any one who has already received its degree, it offers, dependent upon the result of an examination, a "teacher's diploma." This examination covers the following subjects :

1. Mental and moral science in their relation to the work of teaching.

2. Methods of teaching and school management (theoretical).

3. The history of education ; the lives and work of eminent teachers ; and the systems of instruction adopted in foreign countries.

This is the only subject in which special works are required. To give an idea of their scope, the list for 1891 is appended :

Locke.—Thoughts on Education.

De Guimps.—Histoire de Pestalozzi, de sa Vie et son Œuvre.

Thring.—Theory and Practice of Teaching.

4. Practical skill in teaching.

The Teachers' Training Syndicate of the University of Cambridge is a somewhat similar institution. It offers courses of lectures on the History and Theory of Education, and examines candidates on courses very similar to those of the London University. In addition, it awards certificates of practical

efficiency to candidates who have been certificated on theoretical knowledge, based upon an examination of the class taught by the candidate; an inspection of the class while being taught; a private questioning of the teacher; and the report of the headmaster of the school.

The "College of Preceptors" also offers its diploma to teachers who pass its examinations. These diplomas are of three grades, Diploma of Associate, Diploma of Licentiate, and Diploma of Fellow, standing for examinations of progressive difficulty. For all, a certain amount of English language and literature, geography, and arithmetic are required. There is also an examination on the theory and practice of teaching, embracing mental, moral, and physiological science, school government, lesson-giving, and criticism of methods, history of education, etc., of increasing thoroughness for the different diplomas. The candidate for the associateship must also pass an examination on one of the following subjects, the candidate for the licentiateship on two, and the candidate for the fellowship on three, viz.:

1. Classics.
2. Modern foreign language.
3. Mathematics.
4. Science.

These four subjects are supposed to be equivalent to each other. To give an idea of their scope, the mathematical requirements are appended:

1. *Associateship*.—Arithmetic, four books of Euclid, algebra, including quadratics.

2. *Licentiate*ship.—Arithmetic and algebra, plane and solid geometry, plane trigonometry and logarithms, conic sections, and co-ordinate geometry.

3. *Fellowship*.—The above, and higher algebra, with theory of equations, conic sections, spherical trigonometry, differential and integral calculus.

One, two, and five years' experience in teaching, respectively, are required for the different grades.

Besides the examination of teachers, the two old universities and the College of Preceptors exercise another function which may be mentioned here, viz., the local examination of pupils. A school desiring to advertise its work to the public, school authorities wishing to know the quality of the instruction given by their teachers, may, on the payment of a small fee, have examiners sent down who investigate proficiency and report results. If these reports are favorable, they are often published, and afford the best possible evidence of the standing of a school.

Examinations are also held at various centers, where individuals pursuing independent lines of study may present themselves and have their attainments certified to by a university examiner. The whole of England is permeated with these examinations. They set standards to which many people are encouraged to work up to.

The certificates given have a well-known value for obtaining positions in business, for entrance on medical and legal courses, and for recommendations to situations as teachers. The certificates state the standing of the pupil, whether first, second, or third

class, and, if a number of optional subjects are presented, the extent of knowledge possessed by him. A "first-class" pupil of the College of Preceptors, for example, must have passed eight obligatory subjects—viz., two in English, arithmetic, either algebra or plane geometry, and Latin (two books of Cæsar and two of Virgil will suffice), or a modern language. He may also take five optional subjects from a list including such topics as Hebrew, Scripture, history, trigonometry, book-keeping, physics, chemistry, natural history, political economy, music, and drawing.

The system of examinations is objected to by a few educators on the ground that it fetters the free scope of the teachers, and holds out inducements to encourage cramming to meet the known or supposed wants of the examiners rather than honest disciplinal work with the children. Edward Thring, of Uppingham, would have no external examiners in his school; and at least one prominent institution of London takes the same ground, the principal saying that good teaching is impossible if an examination by an outside person is to be prepared for. It, however, seems to suit the present temper of English people. They have a security against shams. Good work of a certain sort has recognition, and undoubtedly poor work is mercilessly exposed. It levels up the lower end of the line, and possibly also levels down, in some cases, the upper. Something may be said on both sides of the question. I should be sorry to see it established as fully in America.

The Teachers' Guild is an organization which states its objects as follows :

1. To form a body which shall be thoroughly representative of all grades of teachers, and shall be able to speak with knowledge and authority on all matters of education.

2. To obtain for the whole body of teachers the status and authority of a learned profession.

3. To enable teachers by union and co-operation to make a better provision for sickness and old age ; and, by the same means, to do all such other lawful things as may conduce to their own welfare and the benefit of the public.

To accomplish these objects it has organized a Central Guild and 24 local branches, and contains about 4,000 members. Teachers who desire positions register at its office, and are thus brought into contact with employers. The Guild will assist its members in obtaining satisfactory life insurance, or will invest their savings in approved securities. It owns a teachers' library, and many of its books circulate among the members. It carries on lecture courses on educational subjects, often of the highest value.

In these and other ways it is striving to increase the interest of teachers in their profession, and instill enthusiasm and a spirit of progress into their work.

It is difficult to judge how much of this spirit exists in England. A stranger does not see much of it. Pedagogical lectures in London, by the highest authorities in Great Britain, under the auspices of the Teachers' Guild and the College of Preceptors,

have, in all cases when I have had the opportunity to be present, been very slenderly attended. Similar lectures in America would have had ten times as many in the audience. One misses, too, the enthusiasm begotten by the institutes, the county, State, and national conventions of the United States. Books such as those of Bain, Spencer, Sully, Fitch, and Quick are much more widely read in America than in the land of their authors; all superficial signs point to a much greater professional zeal in the new country, and this seems to be generally admitted by the English teachers themselves. "Is there much spirit among English teachers?" I asked my next neighbor at an educational lecture. "Yes," he said, hesitatingly; "are you a teacher?" "Yes, from America," I replied. "No, we have none at all," he immediately added; "it depends on your standpoint." Dr. Fitch in his "Notes on American schools," says: "All through the States there is a much greater demand for educational literature than in England. . . . I can not help thinking that the strong professional feeling which seems to incorporate all classes of teachers and to make them and the public officials conscious of a common interest in educational progress, is one of the most encouraging and hopeful signs of the times."

If, however, the English educational system suffers for the want of professional enthusiasm, it has a solid basis of honest dealing with the public. Every certificate granted by any body in England means what it says, and the knowledge certified to is act-

ually in existence. The training colleges are not all equal in merit, but as there are unprejudiced examiners, the weaknesses are published, and as fast as possible abolished. Few, if any, attempts are made to impose a sham article of professional training on the public. They do fairly well what they profess to do. Their students are not deceived as to their own attainments, nor are announcements made that two years of their work are worth more than a whole university course. Solid work is the rule, and merit has its reward. Perhaps an Englishman is too unwilling to learn from the experience of other countries, and is slow to adopt anything till it is well out of the experimental stage, and hence in certain respects he is behind the age. But what he does is the result of an honest effort to get at what is right, and is the fruit of his own experience. This steady if cautious progress may be depended on to give England in time a body of teachers not consumed with a burning zeal, but ably and honestly doing a high grade of teachers' work. The proportion of their trained teachers is continually increasing. Bills are before Parliament to promote the registration of teachers, and to make the possession of a place in the profession more difficult to obtain and more valuable. When, as will be the case before many years, the English youth are in great proportion taught by men and women with a professional education, alive to the duties of their work and to what is doing elsewhere, an *esprit de corps* may be developed which can not fail to make teaching in-

teresting to themselves and abundantly profitable to their pupils.

Teachers are receiving greater recognition as dignified and important members of society as the character of their work improves. Their advice is much more sought and heeded than twenty years ago. The community—though in this England is behind America—is more interested in their labors. A higher standard of teaching is being developed both among teachers and managers, and parents are less satisfied with inferior results. The test of appreciation is the amount of salary received. In 1857 the average salary of certificated masters in the public elementary schools was £65; in 1868, £91; in 1877, £115; while in 1890 it had risen to £120. The average of certificated mistresses received in 1869 £58, and in 1890 £77. The number of masters who were in receipt of salaries of £300 and over was, in 1890, 358, and of mistresses who received £200 and over, was 449. Considering the cost of rent, service, and clothing in England, these salaries, while no more than they ought to be, are very respectable, and are higher than those of any other nation for similar work. In New York the average salary of men-teachers in the public schools is about \$400 and in Pennsylvania about \$300 a year. This increase of salary in England is probably partly due to the system of “payment by results,” which makes it extremely desirable for managers who can afford it to secure good teachers. The addition of £20 to the salary of a teacher may enable the school to increase its revenues from the Government

grant many times this amount. The number of female teachers is increasing. In 1890, out of every 100 teachers of each class, 60 certificated teachers, 76 assistant teachers, and 75 pupil-teachers were women—an increase of one fourth in the last twenty years.

CHAPTER IV.

SECONDARY EDUCATION.

Secondary education of the poor—No counterpart to our high school—Central board schools—Night-schools—The school provision of Birmingham—Irregularity in the supply of secondary schools—English children must decide young—Elementary school-boys in the universities—No relationship between the elementary and secondary schools—Matthew Arnold and secondary education—History of grammar-schools—Dreams of the Reformers—Charity schools of the eighteenth century—Commission of 1867—General inefficiency—Regeneration—The grammar-schools—Courses of instruction—Preparation for examinations—Discipline—Manchester Grammar-school—Prizes—English masters develop the best boys, American the poorest—Christ's Hospital—Girls' public day-schools.

It is not difficult to write the history of secondary education in England so far as it relates to the children who attend the public elementary schools. There are no free secondary schools, and but few where the charges are within the compass of any but well-to-do people.

The American high school for boys and girls from fourteen to eighteen, organically connected at one extremity with the lower schools and at the other very often in touch with the colleges and universities, existing in many States in every town and many

villages, entirely free, and wholly supported out of the taxes, has familiarized the public thoughts with the idea of state-supported secondary schools. They are a logical outgrowth of the democratic idea that every child is entitled to the opportunity of a good education. The high school may have many defects, but it unquestionably provides an education, sometimes of a classical, sometimes of a modern sort, to a large number of children who would otherwise be deprived entirely of such training.

There is no English counterpart to the high school, and secondary education is impossible to the great proportion of the poorer classes—the classes whose children constitute six sevenths of all the children in the country.

There are, however, certain opportunities open to some of them. The school boards of many cities allow their children to attend a central school to a limited extent after they have completed Standard VII. There are in the elementary schools 41,782 children (less than one per cent of the whole number), who remain after they are fourteen. For these the schools receive no grant except for science and art studies, and but few children remain after fifteen. The new provision of 10s. a student, in lieu of fees, applies to children up to the age of fifteen, and parents are willing in these cases to make some contribution.

Then there are the night-schools, doing much good, but of course inadequate to produce rapid and satisfactory progress which are attended by about

43,000 persons of all ages, but mostly between fourteen and twenty-one.

More to the purpose are scholarships in certain secondary schools which can be awarded to bright and ambitious children from the public elementary schools.

An ancient grant of land, coming down from the time of King Edward VI, yields for educational purposes to the city of Birmingham an income of about \$160,000 a year. The trustees of this fund are appointed in part by the universities of Oxford and Cambridge and in part by the Council of Birmingham. They maintain two high schools, one for boys and one for girls, and seven grammar-schools. The grammar-schools do not fit for the high, but take children who expect to finish their education at an earlier age, and arrange their curriculum accordingly. The boys' high school prepares for the universities. The high schools charge \$60 a year for tuition, the grammar-schools \$15, but one third the whole number is admitted free on scholarships which are granted by competitive examination to the best applicants. One half the scholarships in the grammar-schools are open only to children from the public elementary schools, and the other half are also available for them if they can succeed in the competition.

In addition to this there is in Birmingham Mason's College, founded in 1881-'82, by the endowment of Josiah Mason. Its trustees are in part also elected by the council, and it is in the same way as

the King Edward grammar-schools connected with the elementary schools by a large number of free scholarships. It is thoroughly unsectarian, and even in the absence of scholarships the fees are small. The scientific and practical predominate in its courses.

There is also a school of art whose courses include drawing, modeling, geometry, mechanics, the steam-engine, etc. The fees range from five to forty dollars, and there is also here a liberal allowance of prizes and scholarships for meritorious work.

An institute supplies courses of evening lectures at a penny a lecture, which are largely patronized by artisans and others.

These provisions would seem to secure to the people of Birmingham about all the opportunities for secondary education that could be desired. If all other English communities had equal resources and an equal spirit, there would be little lack.

But there are probably not many, if any, cities which have these things to the same extent as Birmingham, and there are undoubtedly many places where there are none at all. But the illustration will suffice to show how the secondary education of the poor may be provided for in the favored localities. These endowments are scattered over England capriciously, as the accident of ancient residence of donors and the appreciation of landed property may have determined. It is an irregular, unsystematic source of supply, and in places thoroughly inadequate. Moreover the scholarships, often few in number, are

given wholly by competitive examinations, and the rich and liberally taught, caring perhaps not for the money, but the honor, are not restrained from carrying off such prizes as they can. Those from homes of poverty possessing the qualities produced by the inheritance of generations of ignorance are heavily weighted, while there is absolutely no chance for ambitious mediocrity. But probably most Englishmen would say that it was better that mediocrity should not be educated above the elements.

Many school boards appropriate a sum of money for their brightest children to secure a continuance of their education in endowed schools, and this also is awarded as a result of competition.

It is difficult to ascertain, taking England over, just what proportion of those who ought to continue their education above the public elementary schools have the opportunity. It is probably a small proportion, and the loss to the cause of education is very great.

In America it is quite a common thing for a young man who has left several years between himself and the public school to be awakened by a remark, a lecture, or a book to an intense desire for an education. There is nearly always an opportunity for this to be gratified even to the extent of completing a college course and receiving a degree. In England, unless the poor boy at the age of twelve or fourteen has developed those "passing" qualities which win scholarships—and not always then—his career in this direction is closed. The aspi-

rations which waken later in life can rarely be satisfied.

It would seem also that it would diminish the value of the elementary education for the child to know that in many cases it must be the sum of its possible school life. The prospect of a high-school course stimulates many a one to greater exertion, and even if untoward circumstances should prevent his promotion he has gained a few years of good work and the incitement of bright hopes. What a dreary, discouraging thought to an ambitious boy to know that an education was utterly out of his reach, and to his parent, that his own life of drudgery must inevitably be reproduced in his son, who he believes is mentally capable of something better. It would not be inconceivable that they would think lightly of the little they might obtain.

If we continue the inquiry to the university we find about twenty boys from the public elementary schools who have, by successes in examinations, worked their way through the secondary schools into Oxford. Cambridge could probably show a rather larger number, but one per cent of the whole body of students at the two great universities would seem likely to cover all that these schools would furnish. That is, the schools which educate 85 per cent of all Englishmen send to these highest centers of learning one per cent of the whole number, the remaining 99 per cent coming from the 15 per cent of the population whose pecuniary condition enables them to dispense with a state aided education. The

London University, which examines and grants degrees, but which gives no instruction and requires no residence, could show a larger though not large number.*

Another trouble arises from the fact that there is no relationship of the elementary to the secondary schools. They exist side by side, the one for children of from five to fourteen, with the curriculum laid out with the idea that school life will then terminate, the other taking boys of seven or eight and giving a course which either prepares for the university at nineteen or else gives a general, liberal education with a view to a professional or business life. The transition from one to the other is not convenient, and the upper school offers but few facilities for the transfer.

The deficiencies of English secondary education have been eloquently portrayed by Matthew Arnold, who for twenty-five years urged the question on the attention of the nation. He felt himself to be a

* These figures were the result of some inquiries of my own at the universities. Not feeling thoroughly satisfied as to their truthfulness, I wrote to an Oxford gentleman specially interested in such matters for an opinion concerning them. In his reply he says: "I have made careful inquiry on the subject of the connection between the universities and elementary education, and find to my regret that nothing short of a Government inquiry can get the actual statistics. But, in my judgment, you are likely to be substantially correct in assuming that not more than one per cent of the undergraduates of Oxford and Cambridge have at any time in their lives been at an elementary school in receipt of the Government grant. I hope that in ten years' time we shall be able to tell a different tale."

voice crying in the wilderness, and died in the belief that it had not been heard. He says : * “ The existing resources for secondary education, if judiciously co-ordered and utilized, would prove to be immense ; but undoubtedly gaps would have to be filled, an annual state grant and municipal grants would be necessary — that is to say, the nation would perform as a corporate and co-operative work a work which is now never conceived and laid out as a whole, but is done spasmodically, precariously, and insufficiently. We have had experience how elementary education gains by being thus conceived and laid out, instead of being left to individual adventure or individual benevolence. The middle class, who contribute so immense a share of the cost incurred for the public institution of elementary schools while their own school supply is so miserable, would be repaid twenty times over for their share of the additional cost of publicly instituting secondary instruction by the direct benefit which they and theirs would get from its system of schools. The upper class, which has bought out the middle class at so many of the great foundation schools designed for its benefit, and which has monopolized what good secondary instruction we have, owes to the middle class the reparation of contributing to a public system of secondary schools.”

These and many similar words have had more effect than their writer feared they had, and Eng-

* Fortnightly Review, November, 1878.

land is rapidly awakening to the sense of the necessity of organizing and assisting the secondary education of the country. The task is a difficult one. Each endowed school feels strongly its independence, and submits unwillingly, if at all, to a central authority. The reception of state aid involves inspection and consequent adaptation to state ideas, and involves, moreover, in many cases the breaking down of social barriers between the classes. Nevertheless, the problem will be attacked and solved in the practical English fashion when the nation is sufficiently awake to its importance.

This secondary education is now in the hands of a number of private schools of all degrees of goodness and badness, of a few nonconformist denominational schools which are usually good, and of the endowed schools for boys, mostly Church of England schools, which have come down from the times of the Tudors and Stuarts. It is these last alone which possess any decided characteristics.

Before the Reformation there was very little done in the way of public education; scholars found a refuge in the monasteries, and the monks were often teachers. Winchester School was founded in 1387, Eton in 1441, and a few others still existing date back to the time of Henry VIII. The Reformation was not only a religious, but also an educational awakening. The right of all the people to read the Bible in their own language made the acquisition of the power to read an object greatly to be desired. Men of wealth and spirit stood ready to

respond to the demand. The spoils of the monasteries also created a fund which the progressive reformers hoped might go to educational needs, and some of it was saved by their management from the greed of the king and nobility. From these two causes a great number of "grammar-schools"—sixty-three in Henry VIII's reign, fifty in the short reign of Edward VI, nineteen under Mary, one hundred and thirty-eight under Elizabeth, and one hundred and forty-two more during the times of the first two Stuarts—were scattered over England. They were not, in general, elementary schools. The Greek and Latin languages were the main and almost the exclusive subjects of study. They were to be open to rich and poor, the endowment was expected to obviate the necessity of any fees, and they were usually more or less closely connected with the minister of the parish. Their boys often went to the universities. It was a favorite plan with their founders to give also a sum of money to some Cambridge or Oxford College to be used in granting scholarships to boys from the school.

The dream of the enthusiastic reformers was that every parish should have its school, and every school should point to the universities—a truly noble dream which, if it had been allowed to mature, would have saved England the necessity of solving in the nineteenth century problems which were in a hopeful state in the sixteenth.

They are, such of them as exist, still true in certain ways to the purposes of their founders.

They are not yet elementary schools. They prepare boys for the universities, having almost a monopoly of the work, and Greek and Latin are yet in rather a remarkable way the staple subjects of required work. They are still, in general, closely identified with the interest of the Church of England and largely under clerical control. In one point have they departed from the original idea. They are not for the poor. The endowments in many cases have not been sufficient to support them without fees, the necessary and unnecessary expenses connected with instruction and residence have vastly increased, and, with the exception of scholarships available for public elementary boys, there is little chance for their patronage by the lower classes, for whom they were originally partially intended. It is an interesting fact that the idea of free education was brought into this country by the Puritans of Massachusetts, who had, many of them, received their training at the then free grammar-schools of England. They extended the idea by making it possible for all classes to have education free. While we have held to the conception and worked it out as a universal rule and practice, the schools from which it came have themselves discarded it.

The civil war stopped the founding of schools, and the circumstances after the war turned the energies of those who cared to endow education in another direction.

There was a lingering hope up to the time of William III that a universal church could exist in

England. Reluctantly the hope was given up, and the fact that the Established Church had to submit to Protestant competition became recognized. Republicanism and equality seemed also dangerous prospects, which must be taken care of. The two tendencies, dissent and social equality, were largely combined, and could be attacked together. Charity schools were founded for the very poor. Sometimes these were day, sometimes boarding schools. The children were taught to read and write and to repeat the catechism, and they were to be discouraged from attempting more ambitious flights. Too poor to clothe themselves, they were given a distinctive dress which should at once mark their place in their own eyes and those of others. The object was to give them a good education in the very rudiments, to make them loyal church members, and to "fit them for work in that station of life which it had pleased their Heavenly Father to place them." These objects were accomplished; dissent and social equality were made objectionable in many eyes, the Church retained its hold on the masses of the poor, which seemed to be drifting from them, and the condition of many laboring men was raised and brightened. The schools have been partly merged into the national-schools system, have partly died, and the remainder have reached the stature of secondary schools and still exist.

Thus it has come to pass that through the efforts, mainly of individual founders animated by religious zeal, England has been supplied with about three

thousand endowed schools, which, had they been properly nursed and developed and rightly distributed, would probably have been almost sufficient to provide secondary education for the nation. But they had inherent defects, and when, in 1865-'67, the subject was examined by a commission it was found that while the old endowments were in many cases rotting away unused, there was a crying lack elsewhere. Of the old grammar-schools, less than one fourth were doing efficient work, and some of this was rather feeble. The head masters had comparatively a fixed tenure. The remuneration came in regularly from the endowment. Why should they trouble themselves to teach? A cheap apprentice was employed, who did the work. His principal made a show of activity in certain directions. An ambitious boy was rather an undesirable thing to have in the school, and they did not often remain. The lenient character of the requirements for entrance at the Oxford and Cambridge Colleges did not act as a very great spur either to teacher or scholar. The managers filled vacancies in their own ranks of their own sort, and the schools were drifting along in this lazy way, without supervision and with no one to call them to account, doing the least possible work, but taking pretty good care of the endowment. What the commission says of some Yorkshire schools might be applied to many. "It is difficult to imagine a more fortunate collection of educational advantages, accessible to the families of the middle classes in the crowded towns of West Riding and

South Lancashire. But the schools are virtually useless; they give no satisfaction to the localities in which they are placed and they do next to nothing for the public at large." Yet these schools had considerable income and owned a large number of "exhibitions" or free places, which ought to bring in desirable boys, if the advantages of the schools amounted to anything at all.

The commission extended its inquiry to denominational and private schools. Some of these were better, but poor methods and weak intellectual life characterized the most of them. The whole report indicated that a system of great possibilities had fallen into a most disgraceful state of inefficiency and uselessness.

The remedy was applied. Parliament assumed the right to interfere in the management of old endowments for the public good. The freehold tenure of the head master was abolished, restrictions now unworkable were removed, the school programmes were modernized by the introduction of modern languages and science, the scholarships were thrown open to competition, new masters added life and ambition to the spirit of the school, and a great transformation was effected. Many schools increased their attendance tenfold and more, and after the first friction was overcome and the cries of diverting the money of founders from its intended object died away, it became evident that the real purposes of donors were more nearly accomplished by the new than by the old, and no one wanted to retrograde.

The line between "public schools" and grammar-schools in England is not very distinctly drawn. In general it may be said that the patrons of the public schools have greater wealth and social position, while the patrons of the grammar-schools are of the middle classes. While the exact border line between the two is doubtful, there are certain schools which undoubtedly have the typical qualities of either class.

The grammar-schools * are the substantial schools for the better part of the middle classes of England. Varying among themselves much more widely than our high schools, they yet preserve common objects and largely common methods. Boys enter them at seven or eight without previous training in the elementary schools, and continue till eighteen or nineteen. Very early in the time they are divided with reference to the course they intend to follow, though such things as mathematics, drawing, and writing may be taught to the combined class. There will be a class preparing for the universities, which will usually begin Latin and Greek about ten, and give much of its time to them. In some of these grammar-schools, however, where the mathematical facilities are great and the classical otherwise, the minimum of Greek necessary for admission to the university colleges will be secured, which will be dropped immediately on entrance and honors will be sought in mathematics. I was informed at a London

* The public schools will be considered in the next chapter.

school of this character, where there were boys of fourteen and fifteen studying calculus, that three months' special work in Greek during the vacation preceding entrance would give sufficient knowledge to satisfy their examiners, while the fine mathematical preparation would not fail to win a good place on the Cambridge honor list. This, however, is an unusual case, and the most of the grammar-schools still adhere to the thorough classical curriculum for those boys who have university life in view. This instruction is often more extensive, and probably more thorough, than most of the classical preparatory work of our country. I have known a class of beginners to be kept three months on two Latin declensions, and other work was done with the same deliberate thoroughness. The last two years very often cover the ground of the first two college years of the American boy, and the whole course does not greatly differ in extent from that at a German *gymnasium* or a French *lycée*.

Then another section will prepare for the civil-service examinations of the Government. All the minor official positions of the British Government and of India are given to applicants who succeed in a competitive examination. Political beliefs, social connections, or other considerations have no influence. The large number of applicants enables the Government to set a very high standard, and some of the places, especially those in India, are very handsomely remunerated. It becomes quite worth while for schools to undertake the task of

preparing for these tests and giving drill in the special work an examiner will require. A peculiar style of penmanship, regular, with no heavy strokes, making a very good-looking and legible page, is taught. A purposely tangled piece of composition is given to the boys to unravel and put into good English in a given time, and the virtues of neatness and systematic arrangement are taught with a stress and thoroughness unusual even in England.

Another section will take courses preparatory to the military or naval schools, involving large amounts of mathematics, while still others will have their work arranged to prepare for examinations for entrance to the study of law or medicine.

Still another, in many schools the largest section of all, will place themselves in the "modern side," and have their work made up of geography, English, French, German, and elementary science, with a certain portion of mathematics, in preparation for mercantile pursuits. Even here it sometimes happens that an examination originated by some organization of merchants—the London Chamber of Commerce, for instance—the passing of which secures a certain standing, is to be prepared for. External examiners are the rule in England. The tests given in the school by the teacher are more for the purpose of teaching how to pass other ordeals than to satisfy himself of the progress of the boy or to grant him any especial standing. The character of previous examinations is eagerly scanned, and the instruction adapted to the expected requirements of the exam-

iner. The number of its students who have passed a certain examination is published as the best test of a school's efficiency. While this almost universal practice has manifest advantages, mercilessly exposing utter inefficiency, it must fetter the teaching, encourage the concentration of energy on a few probable prize-winners, and stimulate cramming, wherever a school cares much for its standing in this respect.

The boys between the ages of thirteen and nineteen are divided into forms, the sixth being the highest. Should a boy not reach a certain form by a certain age he is dropped from the school, or "superannuated," as is the common expression. If he neglects to make up his mind early to go to school, or stops out a few years to earn some money, he is thrown out entirely. Hence there is a remarkable similarity in the ages of the boys in any class. A boy is not allowed to attend after nineteen except to finish a term, but by this time, if ever, must be ready for the examination he has especially in view.

It is usually prescribed that the boy shall wear a special cap, and in many cases a black coat is specified, and this garb must be worn to and from the school. This acts to some extent as a restraint on bad conduct.

Discipline seems to be almost universally good. Corporal punishments are inflicted, though with caution and with much less frequency than formerly. One of the strongest holds which the school has on its boys is to develop their sense of loyalty and re-

gard for the interests and good name of the school. This is more difficult to do in a day-school, but in most cases they succeed remarkably well. "Old boys," who receive any honor either at university or in political or military life, are held up to the admiration of their juniors and tablets are placed for them in the school chapel or great school-room.

The kind of rules to which the boys are subject may be illustrated by the following, taken from a publication of the Manchester Grammar-school, a day-school for one thousand boys, which stands high in reputation among schools of its kind :

"The duties of each day begin at 9.5 A. M., when prayers are said in the school hall.

"Boys whose parents object on conscientious grounds to their attendance at prayers are assembled at 9.5 in a separate room, under the superintendence of a master.

"When a boy is absent through illness, a note should be sent or brought to the high master's clerk, *on the morning after the first day of absence*, written by his parent or guardian and stating the nature of the illness.

"If the illness be infectious, a medical certificate must be sent to the high master *before the day on which it is proposed to send the boy back*; and he must not return till the receipt of the high master's reply authorizing him to do so.

"No cause except illness is considered a sufficient excuse for absence, unless permission has been previously obtained from the high master. Exception

to this rule will only be made when there is some very serious reason, such as the sudden illness of a parent.

“The penalty for absence without some reason satisfactory to the high master is the loss of a fortnight’s marks for the first offense; prolonged or repeated absence is punished by putting the offender down into a lower form.

“Boys who are absent from illness or with leave from the high master receive an average of marks.

“The home-work should occupy, for the younger boys, about one hour and a half, for the elder, from two to three hours. But it is expected that more will be done on Saturdays.

“Parents who find that their boys take either much more or much less than the time prescribed are requested to communicate with the form master.

“The use of cribs and keys, copying other boys’ exercises, and getting excessive help at home are strictly forbidden, and are punished as dishonesty in work.

“Amusements or social engagements are not taken as an excuse for neglecting home-work.

“Disorderly or unmannerly conduct of any kind on the part of boys coming to or going from school, by train or tram, or in the streets, will be considered a school offense.

“All boys are required to wear the school cap from the time of leaving their homes for school until their return; also in the school play-grounds and on all public school occasions.

“Boys are forbidden to smoke, or to enter public billiard-rooms or smoking-carriages on the railways.

“Boys are not allowed to barter or to have any money transactions with one another.

“No books or other articles must be left about in the class-rooms or corridors. Any boy who leaves about a watch or any article of value will pay a fine to the library fund.

“For the protection of younger boys, and for the upholding of good conduct in the school buildings and public thoroughfares, twelve of the older boys are selected by the high master to act as prefects, and intrusted with limited powers.

“The prefects may set small impositions, and in special cases may send a boy to punishment drill.

“Written impositions are only set when, owing to circumstances, no other punishment is practicable. The handwriting of an imposition must be the best that, in the judgment of his master, the boy can produce.

“Punishment school is a detention lasting three quarters of an hour to which boys are sent to do work which they have neglected on the previous evening.

“Punishment drill is an extra drill lasting three quarters of an hour, and regulated according to each boy's strength. It is the usual punishment for serious neglect or disorder, repeated idleness, prompting in class, etc.

“When a boy is sent to punishment school or

drill no previous engagement of an ordinary character will be accepted as an excuse for not going.

“ Grave offenses may be punished by caning ; and in such cases the particulars of the offense and the punishment are entered formally in a book which is sent to the high master.

“ Boys who are guilty of extreme idleness or disobedience, lying, dishonesty in work, or any offense which seems to call for exceptional treatment, are sent up to the high master, and punished by him.”

This school was founded in 1525. It is placed in the heart of the great and busy city of Manchester. The charges for tuition are about \$60 a year, and the school has to offer to its brilliant students when they go up to the universities sixteen scholarships worth from \$300 to \$500 a year each, and tenable for from three to five years, and twenty-nine others of from \$70 to \$125 each, and tenable for one or two years. There are besides a number of prizes of \$5 or \$10 for meritorious work in all sorts of subjects.

The distribution of prizes is a great event at the close of the school terms. The great scholarships and prizes are announced, and then follow the minor prizes, mostly in books, to the best and second best boy in each form, to the best and second best in all sorts of subjects—Latin, Greek, French, arithmetic, spelling, art, gymnastics, swimming, and sports. A great table is piled with the prizes, the boys are assembled, and the greatest man the school

can command for the occasion addresses them, and one by one they come up as their names are announced and receive from his hand the rewards of their brains and labor. Much more account is made of this sort of thing than in America. The general tendency when you get out of the public elementary schools is to stimulate the best boys. The whole system from the beginning of grammar or "public" school life to the graduation at the university is to develop to their highest extent the strongest powers of the strongest boys. Those who can win prizes bring honor and patronage to the school. The mass of common boys is not greatly stimulated by the prospect of prizes and is, to a greater or less extent, neglected. In America it is probably true that the lower half of the class is the recipient of the most attention. In England I should infer from conversation with masters that the upper half came in for the best treatment and most careful consideration of their wants. It is no doubt true, as the English contend, that brilliant qualities are an indication of great possibilities of position and usefulness and need the best talent to guide and develop them, and that while the error of neglecting the common minds for the sake of the scholars is a serious one, that of neglecting the scholars for the sake of the common minds is no less serious. The truth would seem to be that two ends of the class need different treatment, but that neither should be made to suffer for the other.

The effects of the different ideas which prevail

in the two countries in this respect are shown in the results. An American class, whether in school or college, is more uniform in its requirements. I have seen boys in England in the grammar-schools more advanced and more developed than the best I have chanced to meet in America, but the average seemed no better. The choice scholars of the universities are probably better in their special subjects than ours, but it is easier to enter an Oxford or Cambridge College than to enter Harvard or Yale, and degrees are given in England by these universities which stand for less acquirements than the lowest of those given by our best universities. If we could graft on our system of encouragement of the poor or mediocre student, poor or mediocre in purse or in intellect, the stimulus and guidance which the English grant to their best students all the years from five to twenty-three we should have more prolific results than either country now obtains.

On the whole, the English grammar-schools are not greatly unlike schools of a similar class in America. They are supported by the class which has most sympathy with America, and this sympathy has developed common conditions. Boys are sent to them to be educated rather than to form associations or to play games. Physical training is usually attended to by compulsory gymnasium work and systematic instruction, but sports are not highly developed—not so much so as the masters frequently think would be desirable. The difficulties of this in a day-school are formidable especially for such as

are located in large cities. Boarding-houses are often attached to the schools, and a hot lunch provided at noon for the day boys, but the residential idea is not a marked feature, and its absence, while attended with some advantages, necessitates a loss of the spirit and associations and mental and moral development connected with the organizations and intimacies of boarding-school life.

In intellectual competitions the grammar-school boys are more often the winners than their more aristocratic brethren who attend the "public" schools, and since the revolution of 1867 are invaluable parts of the educational system. The present needs of the country in secondary education are not so much a renovation of existing schools as an increase of the supply to fill gaps and the creation of cheaper schools for the lower classes more intimately connected with the public elementary system.

Christ's Hospital does not belong to the class of grammar-schools, though its reorganization now going on will more nearly ally it with them. It is interesting as a representative case of an old and rich foundation, departing widely from the charter of its founder, while adhering to many useless if harmless forms of centuries ago, and now branching out into a new life of usefulness, in full accord with the spirit of the age.

It was founded in 1553, by Edward VI, the "serious and holy child," who was stirred up by Bishop Ridley to do something for the poor of London. At first it was a hospital for poor fatherless

children, who were sometimes received when not much more than infants. They were clothed in long gowns of coarse blue cloth, then the common dress of the humble, which in time have developed into the "blue coats" of the present generation. These, with the hatless heads and yellow stockings, make a Christ's Hospital boy well known in London.

But gradually it came to pass that as well as feeding and clothing the hospital found it necessary to educate its wards. The school demands for this purpose increased and the responses were liberal. About the time of Charles II large sums of money came in for founding schools and building halls, and gradually Christ's Hospital became a well-recognized public school. Boys were not taken in till they were eight years old, and they remained often to nineteen and went to the universities. Thus by a development which seems perfectly natural it changed from a hospital to a school for little boys, from a school for little boys to a fully organized secondary school. While its patronage was never aristocratic the class of boys who have sought its advantages has improved, and probably in some cases its managers have admitted those whose circumstances did not justify their admission. While it has to some extent lost its original character, it has held on to numerous customs (besides its garb), in fulfillment of the conditions of ancient donors. It has a sum of money, the income of which is to give its boys once a year a substantial dinner of boiled pork, another to furnish gloves with the condition that the

words "He is Risen" shall be printed on them; another to provide a penny and a packet of plums to a number of the boys on Whitsunday. Then again once a year each boy has presented to him by the Lord Mayor of London, a sixpence, a couple of buns, and a glass of wine.

But the most of its endowment is for matters of more serious import, and yields to the school an annual income of about \$350,000, which enables it to feed, clothe, and educate nearly one thousand boys in the heart of London.

But the heart of London is not the best place for a boarding-school for boys, and the nation is not willing that this rich foundation should occupy its present cramped and unhealthy quarters when it is capable of doing so much more elsewhere. The inertia of ages has been at last overcome, and the reorganization has been ordained. The old site is to be sold and with the proceeds are to be established (1) a boarding-school for seven hundred boys, (2) a boarding-school for three hundred and fifty girls in separate boarding-houses, (3) a preparatory school for one hundred and twenty small boys, (4) a day-school for six hundred boys fitted with workshops and laboratories for scientific and practical purposes, and (5) a day school for four hundred girls. The day-schools will be in the suburbs of London, the boarding-schools farther in the country. Masters need not any longer be clergymen, and the "conscience clause" is to be operative for the day-schools. At least one third of all the scholars in

the boarding-schools shall be admitted free of charge, but this privilege shall be accorded to no one who is able to "contribute substantially" to the education of his children, and one hundred and seventy-nine places are to be given to children from the public elementary schools by competitive examination. In the day-schools there are to be three hundred free places for boys, and two hundred for girls who have been for at least three years in the public elementary schools. One half of these shall receive in addition to free education a yearly sum of not more than \$100 each for their maintenance.

In this spirit alike conservative of founders wishes and liberal in adaptation to the needs of the time has this old foundation been regenerated, and started on its new life of beneficence.

There is not much to write on the subject of secondary education for girls. The grammar-schools of the sixteenth century have never been open to them, though the charity schools of the eighteenth have. Private schools have made and still make nearly all the provision for their intermediate education, and these are of all stages of expense and quality.

In 1872 was founded the Girls' Public Day School Company, whose object was stated to be "to establish and maintain in such parts of London and the provinces as may from time to time be decided on superior day-schools at a moderate cost for all classes above those provided for by the elementary education act." The company is in no

sense a charitable one; on the contrary, it has regularly paid five per cent interest on its working capital, and stored up as a pension fund a considerable amount for its superannuated teachers. It places its schools in the centers of population, and always aims to make them thoroughly good. They usually, therefore, receive the support of the classes for which they were intended, and are enabled to charge fees of from \$45 to \$75 a year, sufficient to make them self-supporting. There are about thirty-five of their schools, of an average size of two hundred pupils each. This does not, however, represent the whole of their work. They have shown that really good day-schools for girls may be profitable and have created a demand for more, which demand has been in some cases met by municipalities and companies. The purpose and scope of the schools may be inferred from the following extracts from the circular of the Croydon School, one of the best of them :

“The school system is specially adapted to meet and correct the defects pointed out in the report of the Schools’ Inquiry Commission: Want of thoroughness and foundation; want of system; slovenliness and showy superficiality; inattention to rudiments; undue time given to accomplishments—and these not taught intelligently or in any scientific manner; want of organization. Serious endeavors are made to train the pupils for the practical business and duties of life.

“The school course includes religious instruction,

reading, writing, arithmetic, mathematics, book-keeping, English grammar, composition and literature, history, geography, French, German, Latin, the elements of physical science, social economy, drawing, class singing and harmony, gymnastic exercises, and needlework; or such of the above or other subjects as the council, with due regard to particular circumstances, may determine.

“The work of the pupils is tested by periodical examinations, and reports of their progress and attendance are sent to the parents at the end of every term.

“The school is subjected to an annual inspection and examination by the Oxford and Cambridge Schools’ Examination Board, or by other examiners unconnected with its management.

“If desired, arrangements may be made for giving separate religious instruction to pupils of different denominations.”

CHAPTER V.

THE GREAT "PUBLIC SCHOOLS."

Definition of "public school"—Modern public schools—Grammar-schools—Westminster—Winchester—Eton—Harrow—Rugby—Charterhouse—Shrewsbury—Marlborough—Wellington—Clifton—Uppingham—Course of study—Predominance of the classical—Studiousness of the boys—Quality of the teaching—Games—Manner of living—Daily programme—Discipline—Government by the sixth form—Chapel address—Fagging—Religious influences—Mission work—Claims for the public schools—Preparatory schools—The head master—Day-schools—Advantages and disadvantages—St. Paul's.

THE term "public school" in England is one rather difficult to define. The "public elementary schools" are the cheap schools for children between the ages of three and fourteen of the poorer classes. They can not charge more than ninepence a week per child, and are now mostly free. They must to some extent respect the religious opinions of their patrons, they must be open to Government inspection, and they receive grants of money from the state proportioned to their size and efficiency.

But when an Englishman talks about "our public schools," he does not mean these. He means an indefinite number of schools, educating and board-

ing boys between the ages of ten and nineteen and charging them from \$500 to \$1,000 a year for the service. Just exactly what schools belong to the class would be decided differently by different authorities. The Public-school Year-book gives a list of forty schools in England and Scotland embraced in the title, and includes both day and boarding schools. In 1862 a royal commission (Lord Clarendon's) was appointed to investigate the state of nine public schools. The right of two of these to the name has been disputed because they are day-schools. The other seven, however, would be included by the claims of history and character in every list of public schools. They are Winchester, founded in 1387; Eton, in 1441; Shrewsbury, in 1551; Westminster, in 1560; Rugby, in 1567; Harrow, in 1571; and Charterhouse, in 1609. All of these have had a long and honorable history, have educated many of England's greatest men, and are still patronized by the rank and wealth of the country. They each have from four hundred to one thousand boys on their rolls. Their education is still classical, at least three fourths of their energies being devoted to Greek and Latin. They are all boarding-schools, and while each has its own separate traditions and customs, life at all of them runs largely in the same grooves.

Besides these there are a number of modern public schools of extremely vigorous growth, of which Marlborough, Clifton, Haileybury, and Wellington may be mentioned as examples. Founded in the pres-

ent reign, they have neither the advantages nor the fetters of traditional customs. They also are boarding-schools, and are not by any means cheap. Men of wealth and prominence, men who care more for real scholarship than for aristocratical acquaintances patronize them, and were it not for the foundation boys at the old schools, they would sweep into themselves almost all the university prizes secured by the public boarding-schools.

There are a few day-schools which, by virtue of long history and peculiar patronage, are usually ranked among the public schools. Of these, St. Paul's, Merchant Taylors', and Dulwich, all in or close to London, are the most conspicuous examples. These three schools have largely swept the board in recent years so far as university honors and scholarships are concerned. Their lists are overcrowded with applicants, and it is impossible to secure admission unless you enter your boy months or even years in advance. It is claimed, however, by the friends of the boarding-schools—and their name is legion—that the real advantages of a boarding-school, the discipline of organization and spirit and association, are largely lost in the day-schools.

In addition to these should be mentioned a large number of schools developed from the grammar-schools of the times just following the Reformation. Originally day-schools, many of them have developed boarding departments, and they now enter into the competition for honors, and fit boys for the universities and the army and navy as the public schools

do. In many cases it would be difficult to say whether a school was a public or a grammar school.

With this prefatory attempt to explain the meaning of a public school, for which no comprehensive definition can be given, we go on to consider some of their characteristics. Westminster was originally the court school. Situated close to the Abbey, it was supposed to be under the special protection of royalty and enjoyed a high degree of favor under Elizabeth and the Stuarts. It returned this by a strict devotion to the unfortunate house, and suffered by its downfall. It is said that Dr. Buzby, head master in the time of Charles II, refused to take off his hat in the presence of that monarch, as he did not wish that his boys should know that there was any one in the kingdom greater than himself, and the good-natured monarch acquiesced in the arrangement. After 1688 the royal favor was turned to Eton, which had sided with the Whigs.

Winchester, the oldest of English schools, is patronized by gentry, clergy, and professional men. It has retained this characteristic from the first, never having been a court or society school. In scholarship it ranks high, and its popularity is indicated by the unique rule that no boy will be enrolled more than four years in advance of the time he expects to attend.

The old building retains very much the external appearance of five hundred years ago, an appearance due to its ecclesiastical architect, William of Wykeham, though the recent additions are costly and con-

venient. The seventy "scholars" live in the old quarters, the other boys occupying masters' houses. The "scholars" take their meals off wooden tables which have come down from the founders' time, use square wooden trenchers instead of plates, and as of old, all the remains go into a tub for the poor of the town.

With this retention of old customs which are not burdensome, Winchester is quite disposed to be alert and "modern" in its adoption of changes in its curriculum and methods of instruction. Its motto, "*Aut disce, aut discede, manet sors tertia cædi*," is not a motto merely, neither is that of its founder, which it keeps prominent, "*Manners makyth Man*."

The following from its prospectus will serve as illustrative of the general regulations which prevail at an English public school.

"COMMONERS.

"The commoners of Winchester College are received into boarding-houses, containing about thirty-five boys each, at a charge of £112 per annum—£34 being charged for tent term and £39 for each of the other two terms. The entrance fee is £12.

"The head master does not take any boarders into his own house; nor can he undertake to recommend any boarding-house in preference to others.

"Applications for a boy's admission as a commoner should be made direct to the master in whose house it is wished that the boy may be placed.

“Names are ordinarily entered on the house master’s register at the beginning of each year ; no entry can be made for any year which is more than four years in advance of that in the January of which the entry is registered. When it is wished that a name should be entered in any January, application may be conveniently made in the course of the preceding December.

“The head master reserves one vacancy in each house every year at his own disposal. These vacancies he proposes ordinarily to fill up each year by competition.

“Extracts from Regulations made by the Governing Body of Winchester School.

“No boy shall be admitted to the school as a commoner before he is twelve years of age, or after he is fifteen years of age, unless for special reasons to be approved by the head master.

“Before the admission of any boy as a commoner the master of the house in which he is intended to be placed shall obtain from the person or persons in whose charge the boy has previously been an account of his conduct, to be approved by the head master.

“Before the admission of any boy as a commoner he shall be examined by, or under the direction of, the head master, and his place in the school shall be determined by such examination.

“The subjects of examination shall be such as the head master, with the approval of the governing

body, shall determine; but the following shall always be included: 1. Elementary religious knowledge; 2. Translation into English of an easy Latin author; 3. Latin grammar and parsing; 4. French grammar, parsing, and translation of easy passages; 5. Elementary arithmetic; 6. The outlines of English history and of geography; [in addition to these prescribed subjects, the examination will include: 7. Translation into Latin of easy English passages; 8. Greek grammar, parsing, and translation of easy passages.]

"NOTE.—A knowledge of Greek is not required from boys under fourteen years of age.

"The grammars in use are the *Public School Latin Primer* and *Abbott and Mansfield's Primer of Greek Accidence*.

"No boy shall be admitted unless the account obtained of his previous conduct be approved, and unless he appear to be sufficiently advanced to take part in the lessons of the lowest class in the school. [The classical books read in this class may be represented by easy selections from Cæsar and Ovid.]

"The head master shall have power to refuse the admission of any applicant if he judge it expedient.

"No boy shall remain in the school after the end of the school half-year in which he shall attain the age of sixteen years, unless he shall have been previously admitted to Middle Part V; no boy shall remain in the school after the end of the school half-year in which he shall attain the age of seventeen

years, unless he shall have been previously admitted to Senior Part V; and no boy shall remain in the school after the end of the school half-year in which he shall attain the age of eighteen years. Under exceptional circumstances the head master may relax these rules, but in no case shall a boy remain in the school beyond the end of the school half-year in which he shall attain the age of nineteen years.

“The following payments shall be made by every commoner to his house master: 1. Upon admission to the school, an entrance fee of £12. 2. For school fees, an annual sum of £33 10s. 3. For board and private instruction by the house master, an annual sum of £78 10s. 4. For medical attendance, annual sum of £2 2s. 5. For the gymnasium, an annual sum of £1 1s. 6. For the infirmary, an annual sum of \$1 10s.

“Lessons on any subject which does not form part of the teaching of the class in which a boy may for the time being be placed may be charged under such arrangement as may be made by the house master with the approval of the head master.

“SCHOLARSHIPS AND EXHIBITIONS.

“The scholars on the foundation of Winchester College are elected after a competitive examination, the particulars of which may be obtained by application to the head master.

“Two exhibitions are awarded every year, to be held by commoners, each of the value of £40 per

annum, to which boys between twelve and fourteen years of age, whether already in the school as commoners or not, are elected by competition at the time of the examination for scholarships.

"Six scholarships at New College, Oxford, can be obtained each year by boys leaving the school, and are open to scholars and commoners alike.

"Exhibitions are also given to boys leaving the school. At present not less than four of £50 for four years are given each year."

Eton was founded in 1441 by Henry VI, who took Winchester as his model. At the same time he established King's College, Cambridge, and connected the two by scholarships in the university to be held by Eton men. He intended it to be, as all the great schools were originally intended to be, a college for priests and for poor boys. There were to be seventy of the latter received, and they were to be fed and clothed as well as educated free of charge. The seventy "collegers" still remain, though they can hardly be said to be all poor boys, nor are their total expenses provided for. Eton had a checkered history. Being a Lancastrian foundation, the House of York when in power took away many of its estates, and Henry VIII and the reformers were with difficulty propitiated. Elizabeth treated it in her usual arbitrary manner, dictating the election of officers, who, however, proved in the main quite satisfactory. The Parliament and king alternately ejected the appointees of the other at the time of the civil war. In 1688 Eton declared for

Protestantism and constitutional monarchy, and so took from Westminster, which adhered to the Stuarts, the honor of being the court school—an honor it has never lost.

Until about forty years ago the education at Eton was exclusively devoted to the study of the ancient languages of Greece and Rome. Mathematics was not compulsory till 1851. French followed some twenty years later, and natural science and German have only recently had a place on the programme. At the present time at least three fourths of the time of students is given to Greek and Latin, and the classical masters are favored at the expense of others.

The seventy collegers of Henry VI, who were required by him to be poor and needy, suffered much in the beginning of the present century by a disgraceful curtailment of their comforts, so as to provide a large income to the officers. Their food was deficient, their lodgings bad, and they were subjected to much tyranny. The place ceased to be a desirable one, and in 1841 only two applicants presented themselves for thirty-five vacant places. This drew public attention to the existing state of things, their grievances were remedied, and now a multitude of candidates present themselves for the vacancies (about twelve a year) as they occur. This enables the school to select the most promising, and the Eton collegers are a remarkably fine body of young men. Poverty is no longer a qualification, and men of wealth are eager to have their boys on the list.

They win prizes for themselves and their school, and the scholastic reputation of Eton is largely based on their successes.

The "oppidans," as the nine hundred other boys are called, would, I suppose, admit that they were not as a class very industrious. Matters have improved in this respect within twenty years, but still a moderate standard of work will probably satisfy the ultimate demands of the authorities. A number of boys go to Eton for the sake of *having been there*, remain for a time, and leave, to be *coached* up to the university standard if they aspire thitherward.

Many anecdotes are current about the slight educational achievements of a certain class of Etonians. The following will suffice as a sample. A boy was reproved by his master for his exercise sheet, so careless and full of errors. "Even your younger brother could do better than this." "Please, sir—" said the boy, and hesitated. "Well, what can you say for yourself?" "Please, sir, he hasn't been here as long as I have."

On the other hand, university and other authorities have said that the very best scholarship often comes from Eton.

An Eton master is the authority for the statement that a great change for the better has within a very few years come over the youthful nobility of England. There is more zeal for learning, more of the true student spirit, more willingness to enter into competition with the poorer students for the prizes of scholarship than formerly. Many of the stories

about Eton idleness were probably true a generation ago, and are not so applicable now. Opportunities for an independent judgment by outside critics on these matters are not great, but it is probable, from all one can gather, that the habit of self-sacrificing devotion to books is not carried to an unseemly extent among the oppidans.

But the Etonian would say, and rightly, that he received many benefits from his school which were not found in books. The life was more than meat. "In London, life is endurable, at the university it was enjoyable, at Eton it was fascinating," said an old Etonian. And even a stranger wandering over the great meadow play-ground, among the giant elms, noticing the beautiful river winding by, the stately towers of Windsor on the adjacent heights, seeing the ample provision for cricket, boating, fives, racquets, foot-ball, hunting, military manœuvres, and gymnastics, thinking of the magnificent history the school has had, the great men who have spent their boyhood there, and whose spirit and penknife-marks still remain, the old customs which leave their impress on the boys, so that every Etonian has well-defined characteristics, can understand the reasons which would induce an old scholar to send his boy to a school to which he would look with so much pleasure in the retrospect. Eton would flourish were its intellectual life very commonplace.

For some reason Etonians come to the front in after life. This may be partly explained by the fact that they are born with all the advantages of

wealth and inherited position, and are frequently eldest sons. But the school claims, and probably justly, that its own peculiar system encourages and builds up the qualities which make rulers of men. "Waterloo was won on the playing-grounds of Eton," said Wellington; and the names of Chatham, Fox, Canning, Peel, and Gladstone bring out her claims in strong light. A recent historian says: "Eton has a special faculty in producing men with the qualities of leadership. She breeds leaders. Go to the universities and to Sandhurst; explore the army, the Church, the civil service, and the Houses of Parliament; read of enterprise in the colonies and in India; and, in a word, ransack the world of action, and you will find Etonians constantly in the front. And, what is more notable, you will observe that these men are not intellectually superior to those they lead. Indeed, they are often inferior. But, somehow, they get to the top."

In so far as school arrangements produce this result, it is probably due to the fact that the initiative is taken in all games and debating societies by the boys. While the masters join, it is only for good fellowship, and not to control in the slightest degree. Much liberty is allowed to a boy in his studies, if only the results are satisfactory. He can largely work alone, or can have as good assistance as he wishes. The school is evidently for the boys. They manage it to a large extent, the masters being advisers, with plenty of authority in cases of necessity.

Eton, in common with some other public schools, has officers called tutors with somewhat peculiar duties. A tutor does not mean a teacher, but a sort of tribune for the boys under his care. Every boy must select one, and retain him during the whole of his school life. The boy has different masters, but always the same tutor. This tutor is to be to him a confidential adviser and friend. If he needs discipline, the offense and the punishment meted out by another master must be reported to the tutor. No one else can report him to the head master. If he is dilatory or in any general way unsatisfactory, the tutor will take him in hand. He is strictly *in loco parentis* during the boy's school life.

The boys live in houses of the masters, about thirty-five in a house. If a house master is also a classical master, he is usually the tutor to the boys who live with him. A mathematical master can not be a tutor, nor can a science master or a French or German master, and if he have boys in his house they must find their tutors elsewhere. The collegers living in college halls have also to select their tutors outside their houses.

Harrow has gained its present position by its inherent energy. It did not have a royal, aristocratic, or ecclesiastical founder, but one John Lyon, who wished to establish a local school to benefit the poor people of his little town. But he added to his instructions permission to the master to introduce a few "foreigners," who would pay fees, in order to increase the small income of the school. These

foreigners now constitute Harrow School in all essential respects.

Harrow is just on the outskirts of the great city of London. A succession of vigorous head masters saw their opportunity and made the most of it. It soon outgrew the narrow limits of locality, the tide set in its favor, and now Eton alone exceeds it in the wealth and consequence of its patronage.

Much that has been said concerning Eton will apply to Harrow—the same general system and character of work, the same quality of patronage, the same general regulations of living, the same tutorial system, bring out largely the same results. There are differences recognized in this product by those who know both intimately, but they can not be very widely divergent. One can not learn much of a school by a few visits, but the class-room exercises, the bearing of the boys, the temper of the masters, and the atmosphere of the place, impressed me with the thought that it was a place where much that is best in boys received encouragement and recognition, where sensible manliness and purity were fostered, where a good standard of conduct and habits prevailed, and where every assistance and stimulus was given to boys who were inclined to be studious.

Rugby owes much of its popularity to Dr. Thomas Arnold. This great man, who was, as has been said, fit to be prime minister, not only revolutionized Rugby, but also the whole system of public-school instruction in England. It is undoubtedly

fortunate for him that he has had such biographers as Dean Stanley and Thomas Hughes, but he must have been a great man to command the enthusiastic admiration of such judges; his fame does not probably exceed his deserts, though there are many customs followed now as Arnoldian which Arnold would have condemned. He believed, and acted on the belief, that boys could govern themselves, and rigidly held his sixth form responsible for the conduct of the school. He believed that this system was best for masters, for the sixth form, and for the whole school, as it developed a feeling of responsibility, of the highest benefit to the boys. He encouraged games, and heartily cheered on the participants; but he would probably have protested just as vigorously against the enforced methodical games of the present generation which are assumed to have his sanction, as against the former attitude on the part of the school-masters of distrust and apprehension. As heartily he entered into the moral and spiritual lives of his boys, and made them feel the power and strength of that interest. He was a political reformer, and as a result of his influence Rugby and its associated Oxford College, Balliol, were to England, after the passage of the Reform Bill of 1832, the representatives of the best reform sentiment.

There is said still to be a certain earnestness and seriousness about Rugby boys, a feeling of responsibility for the condition of things in Church and state, especially marked at the universities, which is the inheritance of the Arnold influence.

Arnold also led the movement against the exclusive classicism of the schools. He taught his boys to study things as well as words. While a classical scholar himself, he saw that there was much in nature and humanity well worth the thought and interest of students, and he encouraged the introduction into his curriculum of mathematics, science, history, and politics.

Rugby has been largely a model for the newer public schools, and the ubiquity of Rugby foot-ball is but representative of a list of Rugby methods and customs.

The Charterhouse school dates back to 1609. In that year Thomas Sutton, a wealthy citizen, procured an act of Parliament to establish a hospital and school on ground he had purchased close to the boundary of the old city of London. This land had been for a long time in possession of the Carthusian brethren, and from it they had been forcibly ejected by Henry VIII. Their origin dates back to about 1100, when they founded a house called La Grande Chartreuse, of which Charterhouse is the derived English word. The hospital still flourishes on the old site. All of Thomas Sutton's gifts, which he to a large extent organized in his lifetime, have proved of enduring benefit. The school was originally intended, as in the case of Eton, for the education of poor boys, called here *gown boys*, but very soon the custom of taking in others on payment of fixed charges was adopted. Its idea was not conceived in any narrow spirit of measuring education by its ca-

paecity for earning money, but from the start the school began to send boys to the universities, granting them "exhibitions" to pay their expenses there.

The school went on with varying success for two hundred and fifty years. By this time it was in the midst of the great city of London. The play-grounds were greatly curtailed. The smoke and fogs and noise were not favorable to the health of a boarding-school. Its property had become immensely valuable, and while tradition pleaded strongly and the boys strangely preferred the old, cramped, unhealthy quarters to the breezy hills of the country, and Lord Derby said in the House of Lords that "no governing body of the Charterhouse would ever recommend either of two propositions, the election of foundation scholars by competitive examination or the removal of the school from the London site" (both of which they did shortly afterward), yet the common-sense view prevailed and Charterhouse went to the country. The property was bought by a great day-school, Merehant Taylors', which was thus able to educate five hundred instead of two hundred and fifty boys, and Charterhouse quickly jumped from one hundred and fifty to five hundred.

No one who stands on that beautiful plateau, walks over the ninety acres of school property, and sees the magnificent buildings erected with every scholastic and architectural merit, can doubt the wisdom of the removal. Ample play-grounds are right at the doors of the school. Cricket, foot-ball, racquets, fives, and tennis courts, a swimming-tank,

a rifle range—everything one would think to conduce to a happy and healthy boyhood—are here provided. Fine class-rooms, libraries, and museums cater to varied tastes. About one fourth of the boys (the upper ones) have separate studies, about six feet square, but all sleep in cubicles (little rooms with partitions about six feet high), under the care of the older boys. The great mass of the boys, all living in masters' houses, study in large school-rooms, which are general *rendezvous* for all the boys when not in class or out of doors. The old carvings made by previous generations of Carthusians have been removed with the school and built into the new walls. Everything possible has been done to secure all the advantages of the country site while retaining the continuity and the inspiration of the past history.

Eton was built in a swamp, now, of course, well drained, but still foggy. Harrow is on a hill, but only ten miles from London, and its buildings are scattered about through a town with but little connection apparent among them. Marlborough is far from large towns, but is in a valley surrounded by high hills. Westminster and Clifton are in the midst of great cities, and much circumscribed. Winchester and Rugby have quite good sites on the edges of small towns; and Wellington, though now in a forest, will in time have a fine estate. But few schools in England are equal to Charterhouse in location.

Shrewsbury is a venerable school, founded by Edward VI in 1551, and augmented twenty years

later by Elizabeth. It has always maintained a high place, and has forced its way into recognition by its inherent merits.

Marlborough was founded in 1843, and intended especially for the sons of clergymen. A large proportion of this class still patronize it, and about eight hundred of its old students are themselves clergymen of the Established Church. It is in rather an inaccessible place, far from any large city. This the head master considers an advantage, as it allows so great liberties to be safely granted to the boys.

As Marlborough was founded for clergymen's sons, so was Wellington founded (in 1853) for the sons of army officers. Scholarships are granted to this class, and the military element predominates both among the boys and the associations with which they are surrounded.

Clifton was founded in 1862, and has rapidly come into great prominence. It limits its numbers to six hundred, and has applications made long in advance. It is not so denominational as some of the others, allowing considerable freedom in religious observances. It has been remarkably successful in its scholastic results. The great city of Bristol now incloses it, and its position is somewhat cramped.

Uppingham is an old foundation, but was of little consequence until the head mastership of Edward Thring, in 1853. He, with remarkable energy and versatility, developed the school wonderfully. Thousands of pounds expended in buildings, play-grounds,

prizes, and equipment in various directions, were added to its endowment. He had immense influence among his masters, and through them, as well as directly, on the boys. He would have no outside examiners in his school, believing that they cramped and fettered the teaching. He was a dictator, as all public-school head masters have the power to be, with original ideas and great force in impressing them. He continually preached that every boy was good for something, and that the dull boy deserved at least equal care with any other. It was the place of the master to find his strong point, whether it was classics, mathematics, natural science, music, carpentry, or games, and develop it. He had artists to beautify his class-rooms, the best trainers in England for his games, and under his management his school was worked up to great popularity and efficiency. His is a striking illustration of the fact that with a very few exceptions, and perhaps not any, the life of a public school is bound up in the personality of its head master.

The course of study in all the public schools is largely classical. Most of them have, however, a "modern side" in which Greek is omitted. In all, this embraces a decided minority of the boys, and in most of them is a resort for such as are intellectually weak, and hence is in less honor than the classical side.

The division of time in class-work for a few schools, in the classical course, between the various subjects will be seen in the following table. It

must be considered as approximate only, as it varies slightly from form to form :

	Classics.	Mathe- matics.	English.	Modern lan- guages.	Science and drawing.
Brighton.....	13	5	4	4	..
Eton	15	4	..	3	2
Harrow.....	17½	3½	..	2	2
Merchant Taylors'	14½	5½	3	3½	..
Repton	13	5	4	2	2

In the modern side, and in preparation for the military colleges, which latter is a considerable matter in most of the public schools, the division would be something like this: Mathematics, 6; Latin, 6; English, 3; French, 5; German or science, 5.

It will be evident from the above that the classical bonds, so constricted thirty years ago, are loosening. The process seems likely to go on. At a conference of head masters held at Oxford in December, 1890, the head master of Harrow introduced a resolution "that, in the opinion of this conference, it would be a gain to education if Greek were not a compulsory subject in the universities of Oxford and Cambridge." He was supported by the head masters of Marlborough, Wellington, Rugby, University College School, Winchester, and Rossal, and defeated by the narrow vote of twenty-nine to thirty-one—a result very encouraging to the minority. Though the universities refuse at present to act in this direction, it is a remarkable indication of the tendencies in the old conservative schools.

In an article in the *Contemporary Review* for

September, 1890, the head master of Harrow gives his ideas as to the formation of a curriculum for the public schools, and they are of a rather revolutionary character. He considers it very possible to establish a course based on modern languages, including English, or on science, or on advanced mathematics, which shall have better disciplinary effects in certain cases than one based on classics, and which therefore should be held in equal honor. He thinks that divinity, Latin, French, mathematics, natural science studied in the open air, and English literature, including history and geography, should be universally studied, and should form the common property of educated men. These the boy will have before he enters the public school at fourteen. Then he must decide whether or not he will take Greek. From fourteen to sixteen he will give much time to Greek (or its substitute, German or mathematics), to an indispensable minimum of science, and also continue his general studies. At sixteen he will make choice of one of the four—classics, mathematics, modern languages, and science—for a specialty, to which specialty he will give one half his time.

I give this outline because it indicates a trend of thought in England toward a scheme which does not draw a broad distinction between classical and scientific courses, and set them to some extent in opposite camps, but, giving a broad basis of common knowledge, makes every department of equal honor, and places every boy where with his adaptations and prospects he can do for himself the best possible.

In speaking of the public schools as being mainly classical, it would not be right to infer that provision is not made for science. Drawing is taught well in them all. New and convenient chemical laboratories, largely used, are very common. Many have excellent museums, archæological, biological, and geological. Art also is taught with great success. On the modern side, and among certain students of the classical, remarkably good mathematical results are obtained. Indeed, there are now at the best schools excellent facilities, both in men and equipment, for an ambitious student to work at almost anything he ought to work at. The preponderance of classics is shown in the greater time given to it in the *regular* course and the greater honors allowed to the classical masters over the mathematical, scientific, and modern in almost all the schools.

The amount of time given to study by the boys, and the zeal displayed in securing intellectual development, probably vary considerably in the different schools. Where a young man knows that his fortune is secure a powerful incentive to self-sacrificing labor is withdrawn. It is the misfortune of some of the English public schools that they have a considerable number of this class, and under these circumstances no official requirements can secure the best results. The penalty most relied on is "superannuation"—dropping a boy from the school if he does not reach a certain form by a certain age. But it is evident this would have no terrors for a "clever" boy, as the English express it, for the penalty has to be so

modified as to cover rather flagrant cases only. "Caning" is still occasionally resorted to, and "impositions" of verse-copying, etc., are used to prod up dilatory boys. The tutor or house master can also exert much personal influence.

But after all that can be done (and very likely all is done that can be, short of eliminating some rather valuable material), the tone of the school alone will make hard students of the average boys. They may be very good fellows with many admirable qualities, but they will not be students unless it is the custom to study, and there is reason to believe that in the older public schools the influences of the great mass of boys are not for zealous intellectual work. In the newer schools patronized by younger sons, sons of professional men, and of well-to-do business men of the upper middle-class, the standard is probably higher. In all schools the incorrigibly lazy are cut out without much favor, and the best boys have every opportunity that could be asked.

As to the quality of the teaching, a stranger can say but little except by hearsay. "What is a public school?" I asked of a gentleman who knows them well. "A school where they don't know how to teach," he replied laughingly; and then went on to explain that the masters were selected from among the honor men of the universities for other qualifications than proved ability to teach. They were brilliant scholars, interested in maintaining the customs and traditions of the schools, desirous of encouraging high scholarship, generally good

athletes, but without training and with no knowledge of the art of teaching. Some of them would in time evolve good methods of their own, but if a low or imperfect standard once got fixed it would not be likely to be known, except when detected by subsequent failures of the boys. The universities have done much to raise the standard by their examinations, which enable a comparison to be made between the different schools and judgment to be passed on their merits and methods. Still, where skill as a teacher is really rather a subordinate affair in the eyes of employers, good teaching will not be a strong point in the schools.

What is meant by skill as a teacher? The teacher must hold different relations to different boys. To the bright, eager boy he must be a director and adviser; to the indolent boy, a goad; to the dull but earnest boy, an incentive; to the great mass of boys, who are not bright or lazy or dull, he must be alternately director, adviser, goad, and incentive, as circumstances may require. He must have his subject well in hand, and have a business-like, effective way of presenting it—a way only to be gained by training or experience. He must be fair, equable, vigorous, sympathetic; must have a profound knowledge of boys, their thoughts and ways, and infinite patience and tact in adapting himself to them.

Now, much of this the man fresh from university honors will not have; much of it he will gain by experience, if he be the material good teachers are made of; some of it a good training college would

have given him, and it would also have given him a high standard to aim at, an uneasiness with himself if he were doing inferior work, and a desire to study the remedies. He would never be content with spreading the most delightful intellectual feast before his boys, and blame them if they did not partake. He would spread the feast, and see that all did partake, those who would not as well as those who would; and if the examination proved they did not, he would hold himself at least partly accountable, and not the boys alone.

It was probably some such thoughts as these that were running through the mind of my informant when he defined public schools as places where they did not know how to teach; yet, notwithstanding his testimony, the little teaching I saw seemed to me to be good, and the examination papers were many of them very creditable.

President Eliot, of Harvard, says that at the age of eighteen French boys are two years ahead of Americans in their educational advancement. They have probably at least the same advantage over an English boy of the public-school type, and so has the German boy. As purveyors of knowledge the public schools would rank considerably below a French *lycée* or a German *gymnasium*, and probably also below the best college preparatory schools of America. Indeed, I suppose most Englishmen would admit that in real zeal for learning and in knowledge of books they were below the best English day-schools for the middle classes.

An English public-school head master will very probably acknowledge all this, and yet claim that his schools are the best in the world. At least two of them have taken substantially this attitude to me. They console themselves with the report of a German professor sent over in 1877 by his Government, who says: "This is, in brief, the result of my observations. In learning, our higher schools are far in advance of the English schools, but the education there is more effective, because it supplies at the same time a better preparation for life."

There is much to support this position. There are many influences in the schools tending to develop a sturdy physical frame, manly independence of character, agreeable and modest manners, and definite moral and religious opinions.

Among these influences the games have an important place. The Anglo-Saxon race is the only one in modern times which has developed these into a means of education. The schools very quickly caught Arnold's idea that they were something to be encouraged, not circumscribed; that the energy given to them was in the main taken from worse rather than better things; that their organization was an important lesson in government, their conduct developed honesty and fairness, and their results were helpful in many ways to the discipline of the school. Finding that voluntary action would not take all the boys to the play-ground, in most schools play has become compulsory, and as much a part of the daily programme as dinner or class-room exercises.

It is not only ordered that the boy shall play, but what he shall play. Thus, in the fall term foot-ball is played universally, and in the spring term cricket. In the winter there is more divergence—racquets, fives, hockey, runs over the country, and a variety of other devices are employed to fill in the programme for three or four days of the week, while rowing comes in more or less all the time where the school is situated so as to admit of it. If it is objected that compulsion would diminish the boys' interest in the game, the answer is that it does not seem to. Very few boys need any compulsion at first, and the number lessens as the term advances.

An observer whose knowledge of games is intimate and whose sight is keen can not but be struck with the high standard that prevails regarding observance of rules, cheerful submission to the decisions of umpires, and recognition of merit in opponents. After watching many games of foot-ball—the game above all others where temptations to unfair playing are the greatest, and where decisions have to be made quickly and on a very slight preponderance of chances—and after talking to many masters and boys, I have not seen or heard of anything like dishonesty or charges of it; any question of the absolutely correct motives which influenced an umpire's decision, though in some cases he was supposed to have erred in judgment; any unwillingness to accept defeat gracefully and to accord to the opposing victors hearty congratulations; anything, in short, which would make the participants other

than better morally for the contest. It is not a popular thing shrewdly to overreach an opponent; it is *ungentlemanly*, and, in the face of public opinion in an English school, no boy would care to have this epithet applied to him.

To keep up an efficient executive management of the vast number of athletic associations in an English school is no slight exercise in business. Funds have to be collected and disbursed; officers elected, and their doings checked and criticised; teams chosen and drilled; and the relations of one association to another have to be determined to the satisfaction of both. All of this is highly useful to citizens of a democratic country.

The governing bodies and the head masters recognize these advantages, and do not confine their actions to merely enforcing attendance. They supply ample grounds; collect the fees from the boys, which go to hire professionals and keeping the grounds in perfect order; select their under masters quite as much with reference to their athletic* as their intellectual prowess; cheer on the boys during the games and after a victory; and show them how to stand a defeat and be the better for it should it come.

This united feeling concerning games makes united feeling in other matters. It creates an open mind and heart to counsel and advice from the mas-

* A university graduate seeking a master's position will be quite as sure to give his standing in the foot-ball or cricket elevens as in his classical or mathematical examinations.

ters in matters of deeper import, and is an untold source of influence and power to the officer.

Another formative influence on the boy's character is derived from the manner of living. In all the boarding-schools the boys live in the houses of the masters. In most cases the head master has a number of boarders, in others he prefers to keep clear of it. In most of the older schools they take their meals, as well as sleep and study, in the masters' houses; in most of the younger ones there is a common dining-hall, to which the boys go at least twice a day. At Eton and Harrow each boy (except in the case of two brothers) has his own room, in which he sleeps. At Charterhouse there are large dormitories divided into cubicles. This arrangement secures some privacy to the boy, while any talking to each other or clandestine visits are comparatively easily detected. At Winchester and Rugby, and the modern schools which have followed Rugby, among which may be mentioned Marlborough and Clifton, there are open dormitories with perhaps twenty single beds in a room, in care of a sixth-form boy, and with a master having easy access. All of these plans have their advocates, as reducing to a minimum the evils of association of boys with each other at night. In no school, so far as I know, are two boys, except in the case of brothers, allowed to occupy a bed-room alone together. That has been loudly and unanimously condemned, wherever I have heard mention of it, as an absolutely vicious arrangement.

The daily programme of a boy is something like this: At about 6.30 he rises, and, with a hasty luncheon, goes into morning school. At 8.30 he goes to chapel and breakfast, then back to school till dinner-time, about 1 o'clock. The afternoon school closely follows the dinner in summer—in winter it is late in the afternoon—and the remainder of the time till 6 o'clock is given to play. At 6 the doors are locked, and no boy leaves the house after. About this time he has tea, followed by one or two hours of preparatory study. Then come supper and chapel services about 9, and the boys go to bed at 10. There are generally three half-holidays each week.

This programme, which, of course, is varied in details in the different schools, will show that the life of the boys is much circumscribed, and indicates the English idea that discipline and strict oversight are good and needful. It is largely to secure this discipline that the boys are sent to boarding-school. Their homes are in many cases so distracted by social engagements that anything like discipline is impossible. "It requires a very good home to be better than a boarding-school," is an expression one often hears. The discipline, though strict, does not seem to be irksome. One seldom hears of any grumbling at it, or the talk so common in America that boys should be "put on their honor," with a continued state of incipient discontent or rebellion. It is accepted by all as a matter of course. The life, as a whole, is intensely enjoyed, and nowhere else in the world is there such extreme and undoubted

loyalty to the schools. The tone is almost *too* loyal; the feeling that everything is just right delays changes and reforms, and English schools are apt to lag behind those of the Continent and America in the adoption of the improvements which the age brings about. The conservative tone there begotten lasts through university life, and shows its marked influence there. "There has not been a political reform adopted during the present century which the universities have not petitioned against," was an unchallenged statement at a recent university dinner-table. It lasts beyond the university, and the ranks of the conservative parties of Church and state and society are largely composed of public-school boys.

It was admitted by at least one head master that this discipline, while excellent for the younger boys, was unnecessarily strict for the older ones, and not the best preparation for the greater liberties of the universities. The change from the guarded care of the schools, continued up to nineteen years of age, to the self-government thrown upon them immediately on entering Oxford or Cambridge, was apt to produce at least temporary demoralization. The work done the first year at the university will compare unfavorably with that of the last school year; and the tempering of one with the other would seem to be a problem, as it also is in America and Germany, for either the schools or the universities to solve.

The living of the boys is plain and simple. There is nothing like luxury apparent. They sit at

table, and often in school, on benches without backs ; the food is good, but not sumptuous ; the beds are not essentially downy ; and the boy is not afraid of a bath-tub of cold water. There are no indications of great wealth, or any catering to it ; all are treated alike. There are no social distractions away from the school, no theatre-going, no home-visiting during term time, no spirits or tobacco. Life is healthful, regular, and simple.

This has its great educative effect. Boys living on this regimen till the age of nineteen do not lapse immediately, and many of them never lapse, into habits of easy and luxurious living. These schools have been in many cases the physical and moral salvation of Englishmen of wealth.

Another feature to which head masters attribute great influence is the system of government, which places much power in the older boys. The sixth form, or students selected from it, are expected to manage all ordinary cases of disorder. They preserve quiet in the dormitories. They see that no bullying of little boys goes on on the play-grounds or elsewhere ; that the rules of the school regarding smoking and such matters are observed. To enforce these rules they are clothed with considerable powers, often more than a master. They can flog in certain instances. In the last resort they may report to the head master. Any monitor would feel justified in doing this in serious cases of stealing or bullying, even if it caused the removal of the offender. In some schools public opinion does not

sustain more than this; in others it allows a very judiciously guarded system of confidence between monitors and head master regarding other offenses. At all hazards the sixth form expects to maintain its authority, and, as the head boy at one of the schools told me, "to teach the cheeky boys how to behave," and both masters and the school in general desire this to be so. I do not believe that under head masters of tact the system is now often abused.

I had the pleasure of hearing a chapel address to his boys from a head master of one of the most prominent schools on the subject of telling a master of evils in the school. He said that the reluctance of boys to testify against each other was honorable and commendable. The ordinary duties of a citizen to witness against crime would not hold good in a school, because one of the charms of school life was the intimate relations existing among boys, which would be greatly injured by frequent telling. A boy should never tell in a case of minor importance; never to gratify any personal feelings; never unless all other resources had been tried and the evil was still uncorrected. But there were cases, other than stealing and bullying, when some moral pestilence was in the school, injuring its boys and destroying its good name, in which it was not only proper but right to inform the masters, who alone could deal effectively with the evil.

The statement was frank, reasonable, and fair. How far it would be indorsed by the boys I do not know.

“Fagging” is not by any means extinct. It has been shorn of its abuses, but still in most schools a little boy has to run errands for a big one, do little jobs in his room, bring up the balls when they go outside the boundaries, and perform numerous services, some menial in their character, but none of them difficult or degrading. A head master recently said: “We couldn’t get on without fagging. Suppose I abolished it, the immediate effect would be that great big boobies in the under school would assume authority which at present is only in the upper school, who are very jealous of their rights. I very fully recognize the social position of the sixth form. Abolish the sixth, and we should have anarchy. I won’t have any cricket or foot-ball captains unless they are in the sixth, and so we keep together mental and athletic superiority.”

In return for the fagging, the older boy owes it to his fag to protect and advise him in all matters pertaining to his relations to other boys and to the masters, and to see that he gets a fair start on his school life.

It must be borne in mind that only the older boys, who have been at the school four or five or more years, have the privilege of fagging. Had “hazing” in American colleges been done by the seniors rather than the sophomores, nine tenths of its evils would have been avoided.

Another set of influences brought to bear on the boys are the religious influences. The public schools are more or less closely connected with the Estab-

lished Church. The head master is nearly always a clergyman. The Church Catechism is taught as a part of the weekly programme. The Church order is observed in the semi-daily chapel exercises. In some schools nonconformists are excused from attendance on the special religious observances; in others, as one head master said to me, "the nonconformists are expected to conform." Not only the official observances but the whole tone of the school sets toward the Church of England, so that, as a matter of fact, very few members of other denominations retain their original loyalty intact.

As to the hold which religion has on the boys, it is difficult for a stranger to estimate it. It is probably very considerable, and increasing with the years.

All the schools now support missions, either near the school or in London. Hundreds of pounds are collected yearly, and many boys work in them with assiduity and success. The effect of this has been given recently by a head master, as follows: "I think that our college mission—and it would probably be the same at all the public schools—has called forth on the part of the boys a distinct recognition of the responsibilities that are attached to riches and position. The change that is coming over the whole of society is coming over them, and the most thoughtless begin to recognize the responsibility of wealth, and the fact that men can not, dare not, must not be blind to the sufferings and miseries of their poorer brethren. I think, myself, that the public schools are not following so much as actually leading in

this matter. I feel that I am bound to do all I can to arouse this feeling. In doing so I find two things: the mere existence of school missions brings before the boys' minds the feeling that there are those who are in need of help and pity—a feeling which calls forth a certain amount of self-sacrifice, and makes a limited demand upon their pockets; this is good—the sense of responsibility is aroused; and then, again, I see that every generation of boys who go out from here produces a few who in after years give a proportion of their life and time to active philanthropy.”

There can be no doubt that the prominent place given religion in the schools by men who honestly believe in its importance has a real and permanent effect on many boys; and though a visitor can not judge fully in this matter, he can see that the external respect paid to the observance of religious forms is very evident, and that their frequency does not seem to produce disgust and indifference in most cases. Still, English boys are apt to take the school schedule as it comes. They do not often agitate for changes. Whatever is and has been for centuries is right, and quiet acquiescence in a ceremony does not, as it would in America, necessarily indicate either thoughtful approval or concealed mental rebellion.

It is to these and perhaps other influences that the Englishman points when, in spite of some weakness in the way of the acquisition of knowledge, he

wishes to justify his confidence in the public schools. He claims that if they do not make as many great scholars, or do not develop all their boys as rapidly as schools of other nations, they do produce something better than great scholarship. They simultaneously cultivate body and mind, force of character, ability to work with men, and moral strength. He claims that the qualities which make England great, which characterize Englishmen in the eyes of the world, are the qualities which the public schools beget. He claims that at the end of the course the boys are not intellectually crammed to sickness and surfeit, that the advantage which the French boy has at eighteen is often lost at twenty-five, and that in the case of those boys who can never be scholars, the qualities which go to make strong, self-reliant, forceful men are there instilled, so that a public-school boy can be always known in the universities and in the world.

The boarding-school life of a public-school boy often begins at about seven or eight years of age. There are a number of preparatory schools which take boys at this age, keep them till fourteen, and then send them to the public school. Everything is done in most of these schools which a school can do, but one can not but sympathize with the little boys so early deprived of motherly and other family influences. It undoubtedly places a great responsibility on the school, which is in theory the wrong place for it to rest, and nothing but a defective family organization can justify it. The fact that

from these boys some of the most typical public-school material is produced, creates some distrust of the whole system, and a wonder whether some softening influences have not been omitted, and the results lost in the finished product, and whether certain national traits may not thus be explained.

But it is the glory of these preparatory and public schools that they have made so successful an attempt to educate the boy in all that pertains to his happiness and usefulness. So many schools consider the sum total of their duty is accomplished when their boys secure a certain intellectual dexterity, that it is refreshing to find, not one but a whole line that ostensibly and really have grasped the broader idea and put it into practice. A nation which has so many of its most influential youths educated in schools such as these may have faults, but it is not soon going into decay.

The course in the preparatory schools is strictly molded by the requirements of the schools for which they prepare. A brief account of the St. Paul's Preparatory School in the West End of London will serve as an illustration. St. Paul's is a classical school, carrying off many honors in Greek and Latin. This fact determines the preliminary course. Though they will prepare for the modern side, evidently the great work of the school is in classics. St. Paul's itself is a day-school, but the preparatory school takes boarders as well as day boys. They like to obtain possession of a boy at seven. Then he begins Latin and French. Greek is started at

ten. Drawing, reading, writing, and mathematics are carried on in a moderate way all through the course. At fourteen the boy goes to the higher school. Seven years have been spent on the Latin grammar and prose exercises, and in that time but little translation (I understood practically none) has been done. Seven years have also been given to French and four to the Greek grammar and exercises. It is on this foundation that the prizes are won. In addition, the boy of fourteen has had a good drill in arithmetic, algebra, including quadratic equations, and the first book of Euclid.

The authority in a public school is vested in a board of governors, whose main duty it is to select the head master in case of a vacancy. The head master is then practically a dictator. He has the power of appointing and removing lower masters, and of shaping the policy of the school in almost all particulars. In some cases the revenues are practically paid into his hands, and it is only a matter of custom and propriety which requires him to use them for school purposes. His income is very liberal. Clothed with such great powers and remunerated so well, the responsibility for results lies with him. A successful head master will have results of two sorts. First, he will satisfy the public that the school is a good one, and so keep it full up to its capacity for accommodation. Secondly, he will have a profound and wholesome influence on the boys. The two, as in the cases of Arnold and Thring, often go together. The personal influence

over the boys may be exerted through the medium of the masters; it may be exerted directly on the boys in the chapel exercises; and it may be exerted on certain boys personally, and through them on the others. The last is probably the most prolific source of influence. The boys thus personally molded would be (1) boys living in his own house; (2) boys in the sixth form, whom he would teach in class, and with whom he would often consult in regard to various matters of government and organization; and (3) bad boys who would come to him for punishment or reproof. In some of these ways the influence of the head master would become filtered down through the school and be strong or weak, depending on his own character. The glory of success lies almost wholly with him. There were many schools in England founded in the sixteenth century which had the same chances as Harrow or Rugby. Management made these great and national, while the others are still local. No one knows of the under masters who have done noble work and helped to bring this about. The head master, with autocratic powers, has taken the responsibility, alone and self-reliant, and garnered the renown.

The success of a school in the public eye will very much depend on the loyalty and public spirit of its boys. And it is not the least use of games that they tend to develop this to a wonderful extent. One of the head masters gave me three other agencies which he considered to be very potent: (1) The school songs, many of them written and set to music

by the boys themselves, either when at the school or afterward; (2) the practice of granting a holiday whenever any "old boy" achieved a distinction in the world; and (3) the Sunday chapel services.

While one school has a different social standing from another, it is probable that there is very little attention paid to rank in a school by the boys themselves. The power of nomination, which kept up the exclusiveness of certain schools, is now done away with in many cases, and the son of a prince or a duke works side by side with the son of a prosperous merchant. Boys in general care but little for certain matters of great importance in the eyes of their elders. "The old exclusive spirit," said a head master, "is now only met with among the *nouveaux riches*." If a boy is an athlete, honorable, gentlemanly, and pleasant, and of good standing in his form, he may be the hero of the school, whatever his ancestry.

No account of the public schools at all complete will omit reference to the day-schools which are usually classed among them. Some of these are of venerable antiquity. They are thronged with students who pay twenty-five to thirty pounds a year for tuition, and in intellectual results, as judged by examinations at the end of the course, are superior to the boarding-schools. They lack something of the *esprit de corps*, and of the influences which attach to residence for twenty-four hours a day, and seven days a week, of the boarding-schools. They have, however, the benefits resulting from home

training. After fourteen this is probably of less relative importance to proper development. Yet it seems to count for something in the faithfulness with which boys do their daily work, and shows that parental influence exerted in the evening is strong in this direction.

The day-school masters also claim that there are better and more sincere relations between masters and boys than in the boarding-schools. The disciplinary questions are greatly simplified, the temptations to organization against the authority of the masters and against real or fancied grievances are much reduced, and so feelings of soreness are avoided. A reproof in a day-school gets quickly to the parent, who supports the master ; in a boarding-school the victim finds plenty of associates who are very willing to persuade him he has been abused, and encourage the continuance of a rebellious feeling.

All of this must be set against the richer life, the better public spirit, the more agreeable manners, and probably the better physical development usually cultivated in the boarding-schools.

The day-school head masters recognize the difficulties of making the boys hold together, and strive to overcome them by the encouragement of athletics. They consider it necessary to have extensive grounds in close proximity to the school, and supply trainers, ground-men, and all necessary equipment.

It is interesting to note how, in England, every one in the public schools, boarding and day, considers that athletics are of the highest importance.

Undoubtedly they are kept in line as to amount, time, and place. Everywhere they are looked upon not merely as wholesome outlets for a boy's energy, but as the best means of physical culture, the greatest aids to discipline, a valuable lesson in organization, and a stimulus to good morals for which there is no substitute. Occasionally one hears a voice raised against what it considers their present excess, but these are few. Parents believe in them, masters promote them, and the boys like them. One would hardly make it too strong if he said that the public-school system would fall to pieces without them; and it is one of the strongest of the arguments in the mind of a British parent of the higher class in favor of a boarding-school that games can be carried on there so much more successfully. We have hardly yet learned this lesson so perfectly in America, though we are rapidly acquiring it.

St. Paul's is the most interesting of the class of public day-schools. Its founder was John Colet, the Oxford reformer of Henry VIII's reign. He was much grieved at the ignorance of the clergy, and hoped to bring up a number of boys carefully educated from their youth to serve the interests of the Church with devotion and intelligence. He conveyed to the Guild of Mercers of London some land which yielded an income of "£120 or better," and appointed them "patrons, defenders, governors, and rulers." The best educated man he could find, William Lilly, the first Englishman that ever publicly taught Greek, was placed at its head. He

would have them taught Latin and Greek, "especially Christian authors who wrote their wisdom with clean and chaste Latin, in verse or prose." The school was to be a day-school, and this fact has deprived its history of the interest which attaches to the fuller life of boarding-schools.

The school lands of John Colet enormously increased in value, and the governors thought that it ought to do more than educate one hundred and fifty boys in crowded quarters under the shadow of St. Paul's Cathedral. Hence, the school has been moved to a more commodious site in the West End of London, and fine buildings erected. It is distinctively a classical school, now accommodating five hundred boys, and its reputation for winning classical prizes at the university is unexcelled. It has educated John Milton, the great Duke of Marlborough, the historian Pepys, Halley the astronomer, and a number of other eminent persons, and its career has to a large degree been worthy of the learning, zeal, and piety of its founder.

CHAPTER VI.

SCIENTIFIC AND TECHNICAL EDUCATION.

Scientific reformers—Commercial supremacy—Science in the elementary schools not increasing—Department of science and art—Grants for drawing and manual training—Grants to secondary schools and classes—Organized science schools—Grants to art—Effect of the work of the department—Royal College of Science—National Art Training School—Manchester Technical School—City and guilds of London Institute—General progress—Young Men's Christian Polytechnical Institution.

THE English have not led in the matter of scientific and practical instruction; but having finally awakened to its importance, and having become conscious of the superiority of Germany, France, Sweden, and Switzerland, they have set themselves vigorously to work to remedy deficiencies, and to close up the gap which separates them from the Continent. One often hears in England that they are now excelled by none in this respect. While this is probably too high an estimate at the present time, it is quite likely to be true in the near future if the present rate of progress continues.

Two influences have combined to create the stimulus to this development. One was the vigorous and continuous preaching of Prof. Huxley and

his scientific associates that English education was too "bookish," too much concerned about words rather than things, developing only one set of faculties, and neglecting the culture which comes from the study of Nature. While the defenders of literary culture have not lacked vigor and arguments, there were many people who listened with approval to the revival of the doctrines of Comenius as applied to modern England. Yet the progress would have been slow but for the second set of influences, which, once felt, greatly hastened the conversion.

These influences were expressed in the cry that the commercial supremacy of England was in danger. The Germans, French, and Swiss had not only introduced science into their elementary schools, but they had also developed to a very high degree of efficiency systems of industrial and technical education. And while England had a sturdy race, immense supplies of coal and iron, and was accustomed to claim an unquestioned first place in manufactures and commerce, it became evident to her that the Continental goods were better designed and often more intelligently made, and that markets which she had felt to be her own property were quietly slipping over into the possession of her better educated rivals.

The perception of this fact rudely awakened the country. That England should be beaten in her own particular field was intolerable, and with determination she set herself to work to recover lost

ground and emulate the success and copy the example of her neighbors in giving scientific and artistic training to her manufacturing, commercial, and agricultural communities. Since about 1880 the authorities have been untiring in bringing this about.

It is true that the teaching of elementary science in the public schools, as we have seen, has not yet grown to very large proportions, and there has been an actual decrease in the number of students in the past ten years. This is probably due to the fact that elementary science and geography are alternative subjects, and geography is more easily taught and seemingly more important. Education on the "payment-by-results" system is so frequently a commercial question, everything being measured by its grant-winning powers, that it seems difficult to develop any subject without a special stimulus in the way of money, and it does not *pay* many schools to teach science when the same grant can be won more cheaply by geography or history. There is a cry among the apostles of science for an additional grant for teaching it, and this seems to be the only way to bring about a great increase.

But while this phase of the question does not show great development, in other respects progress is more satisfactory.

The Department of Science and Art, which has its headquarters at South Kensington, London, has the appropriation of a sum of money annually voted by Parliament (about \$2,300,000 in 1890-'91). This money is used to keep up science and art

museums and schools at South Kensington, to give grants for drawing and manual instruction in elementary schools, and "to aid in the establishment and maintenance of local science and art and technical schools and classes, and of local museums of science and art."

Grants are given for drawing to boys and girls in the elementary schools of 1s., 1s. 6d., or 2s., for each scholar in average attendance, the amount being dependent on the quality of the results, subject to the conditions that (1) the teacher must be properly certificated; (2) drawing must be taught to the whole school, or, if not, to all the boys; (3) the department must set the standards for each grade of pupils; and (4) if the girls receive any grant they must also be taught cookery.

The drawing begins with free-hand lessons on slate and paper of simple lines, angles, and figures. After Standard II, both free-hand and geometrical work is given, which increases in difficulty through the five remaining standards, till at the latter part of the course very creditable free-hand drawings from simple objects, and plans, elevations, and sections of geometrical solids drawn with ruler to scale are executed.

The manual-training grants from the South Kensington Department which have just been decreed are dependent on a satisfactory plant and good teaching, and are 6s. or 7s. for each scholar instructed. The grant is only given above the fourth standard, and involves instruction two hours a week

for twenty-two weeks a year. It is to be given out of school hours, and must be connected with the drawing, so that the articles constructed in the shop shall be from the scale drawings made during school time.

Of the various systems of manual training advocated, that which England seems to be turning toward is the Sloyd, which has its home at Nääs, Sweden, and many an English teacher is making a journey thither to study the methods. The subject is too new to speak of results, but the liberal grant and the enthusiasm over the fresh topic seem to promise at least a fair trial. Unless the conditions are widely different from those on the Continent and in America, the trial will not fail, and a better as well as more varied education, of the mind as well as of the bodily powers and the senses, will be the result.

But the work of the department does not cease with the elementary schools. Science and art schools, under its auspices, are organized in almost all centers of population, and classes are formed in many established schools for secondary instruction which connect themselves with its operations. The department makes to the responsible committees of these schools and classes payments on the results of instruction, and grants prizes and scholarships to meritorious students. It also appropriates money to assist in the erection of buildings for science or art purposes, the grant never exceeding 2s. 6d. per square foot of internal area up to a maximum of

£500 for any one school. The building has to be constructed according to plans approved by the department; the site must be healthy, quiet, and convenient, and owned in fee simple. Provision is also made that a sufficient sum be supplied from some other source, so that the grant shall be only a certain proportion of the whole cost.

In order to insure that all grants shall reach the industrial classes and none other, there is the necessary provision that all students must be (1) persons in receipt of weekly wages; (2) teachers and pupil-teachers in elementary schools; (3) persons in receipt of not more than £400 a year from all sources; (4) the children of the above if not earning their livelihood; or (5) scholars in public elementary schools, in a science school organized under the rules of the department, or in evening classes. Students of greater means may be and are in considerable numbers receiving instruction side by side with these, but they pay fees sufficient to compensate the school.

As relates to science, the grants to these schools cover twenty-five subjects, including geometry and higher mathematics, building construction, mechanics, physics, chemistry, physiology, metallurgy, navigation, steam, and agriculture.

There are three stages: Elementary, advanced, and honors. To give an idea of the extent of knowledge required, the syllabus of the course in practical chemistry is given in the Appendix.* Whether the

* See page 178.

quantity of required work is considered or the rigidity and scope of the examinations, it becomes evident that serious business is meant, and that the grants stand for very creditable results ; the more so when we consider the classes from which the students are drawn, and the purposes which induce them to work.

In each stage there are two classes recognized, depending on the success with which they pass the examinations. Two pounds is paid to the school for each first-class pass, and one pound for each second in the first two stages. In the honors stage these grants are doubled, and in some subjects requiring an expensive laboratory outfit there is also an increase. These amounts, while not large, would be of considerable assistance to a school which had other sources of income, as the student can take two, and sometimes three, subjects at one time. A school can not live on the grants alone, and it is not the object to make this possible. It is desired to induce many schools to teach science in a practical way which would not otherwise do it. That this is done, there is no doubt. Many schools point with considerable pride to the new laboratories and shops, the new science teacher, and the new courses, which the demands of the times and the stimulation of the grants have made profitable or possible.

Besides the classes in special subjects, the department also encourages the formation of "organized science schools" offering courses three years in length in science alone, according to a plan approved

by the department. These courses include mathematics, drawing, chemistry, physics, and physiology in the first two years, and practical and theoretical work in mechanics, building construction, biology, geology, mining, etc., in the third. They may be either day or evening schools. Payments of grants are made on the results of examinations, as stated above, and in addition a day-school will receive 10s., and a night-school 5s., for each student who completes the course.

The art work of the department is conducted on similar lines. Grants ranging from 10s. to 3*l.* per student are given to managers of schools, varying with the grade of work and the amount of success in examination. The department gives various syllabuses or programmes, which include almost every variety of artistic and industrial work, and to some extent influences the methods. The result has been a great increase in the amount of art work done. It is seldom that one finds in England a town of any considerable population where art schools and classes are not in successful operation, and they seem to be nearly always connected more or less rigidly with South Kensington. The most of them have teachers bearing South Kensington certificate. The results are sent up to South Kensington for examination, and South Kensington grants are often important aids to the maintenance of the school. In an industrial center the art work will be mechanical and industrial in its tendencies. At other places, students of antique art or of painting

from nature will govern the sort of instruction given. In both lines the instruction and interest are more widely diffused than in the United States. How the work would compare in quality with ours, is a matter about which it becomes a layman to be modest in expressing an opinion, but from his point of view the results would seem satisfactory both as to amount and quality. And while the resources of our favored centers are excellent, we lack much in not having the stimulus which art centers in great abundance give to so many of the people of England.

The operations of the Science and Art Department in these matters are strongly criticised as being stereotyped and rigid, admitting certain subjects and illogically rejecting others, governed by regulations which amount to fetters on good original work, and discourage freedom of teaching by men of genius. These criticisms, and others of a similar sort, simply mean that the machinery of the English system involves more or less necessarily a large amount of red tape. "Payment by results" can not exist except by some standard of results and some rules for estimating them, and some specification of the kind of schools and kind of teaching for which public money will be given. Improvement in detail is no doubt possible, and the whole system of payment by results might be thrown away with probable advantage to the operations of this department. But the obvious fact which strikes a visitor is the large and growing extension of science and

art instruction, and the infusion of scientific and artistic ideas into the body of the people, which the present system has brought about. Assuming that the quality of results is what it seems to be, the effect produced by the expenditure of moderate means is wonderful, for, in an estimate of this effect, the general stimulation of the nation as well as immediate products of the recognized schools and classes must be taken into account.

Another function of the department is to encourage the supply of science and art teachers. This it does by maintaining at South Kensington the Royal College of Science and the National Art Training School, and by encouraging by grants the teaching of these subjects in the training colleges for elementary teachers.

The Royal College of Science gives a three years' course in mechanics, physics, chemistry, biology, geology, agriculture, metallurgy, and mining, any one of which can be taken separately by the payment of the appropriate fee.

The fees are high, so as not to compete with other schools not state-aided, but special exemptions are made to teachers in training, and a large number of prizes and scholarships for superior work still further reduce the expenses in many cases. Short summer courses are given to two hundred science teachers free, and a small sum is given them toward their expenses.

In the same way the National Art Training School is established for the purpose of training

art teachers, who are admitted free. The course of instruction is given in the Appendix.*

The grants given to the training colleges for elementary teachers for scientific instruction are under the care of the South Kensington Department. The list of subjects † there allowed to be taken is determined by the department, which in December sends an examiner to each training college to test the results. The successful students win for their college one or two pounds each in the way of grants, and for themselves a certificate which has a certain commercial value in obtaining positions to teach science to the upper standards of the public schools.

The more strictly technical or technological education of the country is in the hands of a number of day-schools scattered over England in the large cities and towns. Bradford has a school with accommodations for 1,500 students; Huddersfield, one for 2,500; Keighley, one for 1,500; and Manchester, one for 4,000. Many of these students are apprentices or workmen, who are taking evening courses on special subjects. Some are young men studying their trade prior to joining themselves to it, and increasing their stock of mathematical, chemical, mechanical, or physical theory.

In the Manchester school there are about 700 day and 2,800 evening students. Boys of thirteen and upward can be admitted, and instruction is given in seventy different classes. Such subjects as

* See page 180.

† See page 57.

dyeing, printing, spinning, and weaving, as well as the usual engineering, electrical, and chemical courses, are largely patronized in the day and evening classes. In other schools the courses taken will be different, depending on the local industries. In all cases the production of educated and thinking working men is the great result obtained, and those who have watched the course of events in the last ten years believe that this has been achieved to a very great extent.

The City of London has united with a number of the ancient guilds, the Worshipful Companies of Mercers, Grocers, Fishmongers, Goldsmiths, Skinners, Cloth-workers, and so on, to the number of about twenty, in the encouragement of technical education by the formation of the "City and Guilds of London Institute."

These guilds had their origin in the distant past. Through favorable legislation and donations they have accumulated much property, which after their direct objects, by the changes in the methods of conducting business, seemed no longer attainable, was spent in dinners and otherwise in promoting the social pleasures of a number of rich men. The awakening of the national conscience on the subject of endowments, about twenty years ago, carried with it the question of again utilizing the income of these ancient guilds. Nothing seemed more nearly to the purpose than promoting the trade education of their respective occupations. The Worshipful Company of Plumbers adopted a system of registration for

competent workmen, thus doing much to encourage boys to educate themselves. The Carpenters followed the example. The Merchant Taylors carry on a school which bears their name, and the Mercers assist to manage St. Paul's School. But it was felt that united action could better carry on the work, and hence the Institute was formed.

Besides giving considerable assistance to various schools in different parts of England, it has founded the Central Institution and two branch schools, the Finsbury Technical College and the South London Technical Art School, in London.

While the Central Institution is not on so large a scale as those of Berlin, Zürich, and other Continental cities, it is in a smaller way as well equipped. It cost about \$500,000 to erect and furnish it, and \$50,000 more for its yearly maintenance. The course for a diploma is three years, and involves an amount of knowledge at matriculation equal to that at the best technical schools in America. Special courses may be taken, and the greatest number of the students are found in them.

The other work of the Institute, at Finsbury and South London, is of a more practical character. Finsbury, in 1890, contained 180 day and 855 evening students. The day students are boys who spend two years in this school as a preliminary to entering a factory or workshop. Two years of preparation are spent at a place where the whole resources are given to their assistance, instead of the capricious, specialized, and time-wasting process of a regular

apprenticeship. They go to their shops at sixteen or seventeen, and the practical education begins. But the broad training in science fits them in after life to work up to be foremen and managers. The day courses include mechanical engineering, electrical engineering, and technical chemistry.

In the evening, "trade classes" are formed in cabinet-making, carpentry, metal-plate work, plumbing, brick-laying, and masonry, which are regarded rather as supplementary to learning a trade than as a substitute for it; the principles as well as the processes being taught, though, in direct application to some well-defined trade.

These illustrative schools may serve as examples of the strength of the movement toward practical and technical education which has sprung up in the last ten years. Even Cambridge University has so far fallen in with it as to establish a school of engineering, and many a college has appended such a course to its old curriculum. Those of high grade, which prepare for degrees from any of the universities, have stringent and thorough requirements, and in general an English diploma in this line may be accepted at its face value. But the great strength of the movement has been on the industrial rather than on the scientifically technical side. Artisans by the thousands are being educated and interested in their trades. Thus both sides are kept up. Science and art are applied to design, invention, and management, and skilled workmen execute their behests. The material prosperity of the country shows

the effects, and the fear of Continental supremacy in manufactures and commerce has passed away.

The present account of technical education would not be complete without reference to the great polytechnic institutes which, largely from philanthropic motives, have become recently established in London.

The Polytechnic Young Men's Christian Institute was placed in its present quarters in Regent Street in 1883 by Quintin Hogg, who has invested over \$500,000 in the undertaking, and has drawn together a yearly attendance of about 13,000 young men. Its object is to reach the artisans and working people in a threefold way—religious, athletic, and industrial. The athletic features are not merely a ruse to draw young men under religious influences, but are in response to the appreciation of the lack of opportunities for sport and recreation for the crowded middle and lower classes of London. The founder was himself a "public-school" boy, familiar with the unrivaled advantages of his own youth in this respect, and the spectacle of the hundreds of boys and young men of London growing up without any of the wholesome joys of the ball-field had its strong influence upon him. One of the finest grounds in England, thirty acres in extent, is under the control of the institute, and the department is in the charge of a Cambridge graduate, one of the noted amateur cricketers of England. Cricket, foot-ball, tennis, rowing, cycling, and walking have each their organizations, and

about 600 young men pay their five shillings a year to enjoy the advantages. The great gymnasium is not only open to the members for general use, but classes in gymnastics, under experienced trainers, are in constant operation.

The institute also fulfills the purposes of a club. It has its restaurant, barber-shop, chess and checkers, periodicals, reference books, and general library; while in the winter its lecture-room, with nearly 2,000 seats, is frequently filled.

Then, there are musical societies, debating clubs, military organizations, engineering societies, language classes, and associations for mutual improvement without number, sick-funds and savings banks, Bible study and total-abstinence meetings, while the Christian work gives direction and development to the higher elements of conduct and character.

On the technical side, the institute prepares for the examinations of the Science and Art Department and of the City and Guilds of London Institute, and embraces both day and evening classes, the former for boys, who are generally in preparation for apprenticeship, the latter for older people who are actually at work. No one is received except between the ages of sixteen and twenty-five, though they are not always dismissed at the latter age. The day boys are mainly those who have left the public elementary schools at or about thirteen, and are able to reach the standard of journeymen more quickly and more intelligently by this technical work than by an apprenticeship.

Fees are charged for everything, and though its supporter has to pay about \$30,000 a year out of his own pocket, yet the idea of charity is kept as much as possible in the background. A lot of young men—and, as a result of recent additions we may now add, young women—come together, pay their dues, to a large extent manage their own organizations, and, while grateful for the opportunity which their generous founder places in their way, do not feel their independence sapped by receiving as a gift what they are able to provide for themselves.

A still larger undertaking is the People's Palace of the East End of London. Here a population of two million people have lived, embracing all classes except the upper, to a large extent outside the knowledge or thoughts of the rest of the world. Poverty and crime have been interspersed with vast stretches of bare maintenance and nominal respectability, but ambition had largely departed, and the highest goal of most was to hold their own and secure the animal comforts of life.

In the midst of this mass of humanity was opened, in 1887, the People's Palace of East London. The efforts of Sir Edmund Hay Currie, and the stimulation of philanthropic endeavor by Walter Besant's "All Sorts and Conditions of Men," gathered together the money which made this possible. It is not within our scope to go into the numerous recreative and social features which promise so much for the crowded people of this section of London, and which they have so eagerly and generally em-

braced. There were a million and a half attendances at the entertainments of the first season. They had many of them an utter ignorance of the appearance of green fields and common animals, and thronged the flower, poultry, dog, and rabbit shows open to them. The free libraries and reading-rooms and the concerts have drawn their thousands, and the athletic grounds supplied by the corporation of the city of London have aided in the work.

The technical features are largely similar to those of the Polytechnic. Boys of thirteen are taken and kept two or three years in preparation for a trade. They are generally the sons of mechanics, and, except some recipients of scholarships, pay sixpence a week for the instruction. This is decidedly practical, embracing drawing, wood-work, and very largely chemistry, to supply the wants of the various factories so abundant in East London. The definite results of their works are very manifest, but as yet are too recent to tabulate.

It is by such institutions as these that England is attacking in her practical way the problems of ignorance and viciousness which she has inherited. The agencies are not as yet capable of dealing with all of them, but one by one light is let in upon them, and their ultimate solution seems no longer impossible. Sanitary improvements, public elementary and technical education, opportunities for recreation, and Christian aids and influences, are now pervasive and omnipresent, and darkness is rapidly passing away.

APPENDIX.

1. Various Statistics of English Public Elementary Education.
2. Illustrative Courses prescribed by the Science and Art Department.
3. Rules for Planning and Fitting up Elementary Schools.

Total Number of Day-Schools on the Annual Grant List on August 31, 1890; the Number of Departments, Accommodation, Average Number of Scholars in Attendance, and the Number of Scholars on the Registers in those Schools.

	Schools connected with National Society or Church of England.	Wesleyan Schools.	Roman Catholic Schools.	British, Undenominational, and other Schools.	School-Board Schools.	Total.
Number of schools, i. e., institutions under separate management.....	11,922	551	946	1,365	4,714	19,498
Number of departments in which separate head teachers are employed:						
Boys.....	2,054	39	239	224	1,662	4,218
Girls.....	1,813	32	218	165	1,601	3,829
Mixed.....	9,310	511	706	1,084	2,949	14,560
Infants.....	3,383	239	425	437	2,377	6,861
Total.....	16,560	821	1,588	1,910	8,589	29,468
Number of scholars for whom accommodation is provided.....	2,654,954	215,180	344,214	416,872	1,935,287	5,566,507
Average number of scholars in attendance.....	1,652,167	131,934	193,838	255,496	1,468,802	3,732,327
Number of scholars on the school registers aged under 3.....	3,308	280	89	426	1,831	5,904
3 and under 4.....	65,596	4,793	9,689	8,423	52,959	141,460
4 " 5.....	149,430	10,998	20,931	20,230	122,402	324,081
5 " 6.....	227,850	16,974	29,075	31,092	191,428	496,419
6 " 7.....	253,503	19,331	29,689	35,213	214,739	652,675
7 " 8.....	256,272	20,070	28,661	37,391	222,980	565,284
8 " 9.....	251,900	19,985	29,112	37,749	218,657	557,403
9 " 10.....	253,017	20,346	29,496	39,271	221,156	563,286
10 " 11.....	246,798	20,195	28,535	38,064	216,208	550,400
11 " 12.....	219,507	18,675	25,005	36,381	198,246	497,713
12 " 13.....	161,492	15,182	18,066	29,262	153,271	377,273
13 " 14.....	64,481	6,251	6,625	12,206	61,905	151,528
14 and over.....	17,966	2,009	1,421	4,332	16,406	42,134
Total.....	2,171,120	174,959	256,594	330,540	1,892,347	4,825,560

General Summary of Statistics of Annual Grant Schools inspected during the Year ending August 31, 1890.

DAY-SCHOOLS.

	Schools connected with National Society or Church of England.	Wesleyan Schools.	Roman Catholic Schools.	British, Undenominational, and other Schools.	School-Board Schools.	Total.
Number of schools actually inspected:						
Number of schools, i. e., institutions under separate management....	11,884	551	939	1,369	4,676	19,419
Number of departments in those institutions in which separate head teachers are employed:						
Boys.....	2,051	38	238	223	1,641	4,191
Girls.....	1,811	32	217	165	1,586	3,811
Mixed.....	9,278	512	700	1,088	2,936	14,514
Infants.....	3,377	238	421	434	2,353	6,823
Total.....	16,517	820	1,576	1,910	8,516	29,339
Number of scholars for whom accommodation is provided.....	2,651,078	214,819	341,953	416,253	1,915,182	5,539,285
Number of scholars present at inspection:						
Boys.....	1,009,168	83,995	110,736	158,877	881,301	2,244,077
Girls.....	955,226	73,130	112,909	141,832	814,190	2,097,287
Total.....	1,964,394	157,125	223,645	300,709	1,695,491	4,341,364
Average number of scholars in attendance:						
Boys.....	878,705	71,913	97,346	137,440	772,602	1,958,006
Girls.....	801,891	59,892	95,939	117,433	684,756	1,759,911
Total.....	1,680,596	131,805	193,285	254,873	1,457,358	3,717,917

General Summary (Continued).

	Schools connected with National Society or Church of England.		Wesleyan Schools.		Roman Catholic Schools.		British, Undenominational, and other Schools.		School-Board Schools.		Total.	
	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.
Amount paid out of Parliamentary grants for year ending August 31, 1890.....	1,464,886	8 5	119,076	9 3	167,736	0 10	228,374	3 0	1,846,108	15 8	3,326,176	17 2
Rate of grant per scholar in average attendance.....		0 17 5½		0 18 0½		0 17 4½		0 17 11		0 18 5½		0 17 10½
Number of—												
Certificated teachers.....	20,779		1,231		2,144		2,858		19,527		46,539	
Assistant teachers.....	9,804		800		1,240		1,646		8,294		21,784	
Pupil-teachers.....	12,686		1,318		1,525		2,183		11,898		29,610	
Female assistants.....	3,304		151		538		339		578		6,210	
Number of departments in which singing is taught:												
By ear.....	8,855		187		807		696		2,509		13,054	
Staff notation.....	1,762		22		162		75		223		2,244	
Tonic Sol-fa.....	5,826		608		603		1,122		5,734		13,893	
On both systems.....	31		3		3		5		32		74	
On any other system.....	13		...		1		...		2		16	
Number of departments in which the boys have been taught military drill.....												
Number of departments the girls in which have received instruction in cookery classes.....	426		28		65		91		804		1,414	
Number of schools in which have been established—												
Savings banks.....	1,432		36		72		130				2,498	
School libraries.....	2,827		90		210		252				4,401	

Statistics of Inspection of Annual Grant Schools.

SCHOOL STAFF.

	Schools connected with National Society or Church of England.	Wesleyan Schools.	Roman Catholic Schools.	British, Un- denominational, and other Schools.	School-Board Schools.	Total.
Certificated teachers:	17	.. 1	.. 8	5	8	30
Untrained, provisionally certificated:	140			16	41	206
Males.....						
Females.....						
Untrained, certificated:	2,940	148	82	529	2,205	5,904
Males.....	6,640	348	965	966	5,837	14,756
Females.....						
Trained, less than two years:	429	47	10	93	294	873
Males.....	388	16	49	55	336	844
Females.....						
Trained, two years and over:	5,242	460	244	742	5,209	11,897
Males.....	4,983	211	786	452	5,597	12,029
Females.....						
Total:	8,628	655	336	1,369	7,716	18,704
Males.....	12,151	576	1,808	1,489	11,811	27,835
Females.....						
Assistant teachers:						
Males.....	2,337	190	126	431	2,170	5,254
Females.....	7,467	610	1,114	1,215	6,124	16,390
Female assistants	3,304	151	538	339	878	5,210

NOTE.—In the schools inspected in the Channel Isles and the Isle of Man there were 117 certificated teachers, 43 assistant teachers, and 30 female assistants.

Statistics of Inspection of Annual Grant Schools.
AVERAGE SALARIES OF CERTIFICATED TEACHERS.

	Schools connected with National Society or Church of England.	Wesleyan Schools.	Roman Catholic Schools.	British, Undenominational, and other Schools.	School-Board Schools.	Total.
MASTERS.						
Average salaries (including all professional sources of income):	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Principal	120 3 1	172 5 4	113 0 2	142 15 10	154 19 9	134 2 6
Additional	67 14 7	74 6 3	73 2 3	80 15 10	98 12 8	89 17 2
Number on which average is taken:						
Principal	6,831	491	250	1,001	3,514	12,087
Additional	1,340	154	80	337	3,901	5,712
Number provided with house, or rent free:						
Principal	4,092	66	32	264	1,378	5,832
Additional	3	..	..	2	1	6
Total average salaries.....	£ s. d. 112 1 11	£ s. d. 148 17 7	£ s. d. 103 6 9	£ s. d. 137 3 6	£ s. d. 125 6 10	£ s. d. 119 18 5
MISTRESSES.						
Average salaries (including all professional sources of income):	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Principal	72 11 9	84 11 4	64 2 8	78 16 2	108 4 2	82 17 5
Additional	46 19 6	48 4 10	48 6 0	51 8 11	76 10 1	66 1 9
Number on which average is taken:						
Principal	9,034	321	1,315	878	4,760	16,308
Additional	2,498	241	454	559	6,556	10,308
Number provided with house, or rent free:						
Principal	3,505	7	288	164	537	4,501
Additional	121	1	4	5	21	152
Total average salaries.....	£ s. d. 67 0 9	£ s. d. 68 19 9	£ s. d. 60 1 5	£ s. d. 68 3 3	£ s. d. 89 16 9	£ s. d. 76 7 5

Statistics of Inspection of Annual Grant Schools.

DAY-SCHOOLS—SCHOOL FEES.

These fees are now largely abolished.

	Schools connected with National Society or Church of England.	Wesleyan Schools.	Roman Catholic Schools.	British, Unde- nominational, and other Schools.	School-Board Schools.	Total.
Percentage of scholars paying per week :						
Nothing (i. e., free scholars).	2.67	1.01	10.88	4.45	6.86	4.80
Less than one penny . . . . .	.08	...	.01	.05	.03	.05
One penny and less than twopence.	13.89	3.16	10.81	10.18	20.49	15.64
Twopence and less than threepence.	37.64	23.85	32.12	28.18	39.72	37.03
Threepence and less than fourpence.	27.80	28.13	29.72	27.05	22.56	25.82
Fourpence and less than sixpence.	14.25	29.90	14.10	20.43	8.21	12.91
Sixpence and less than ninepence.	2.97	11.77	2.39	7.31	1.37	2.92
Ninepence. . . . .	.54	1.98	.42	2.14	.76	.78
More than ninepence. . . . .	.06	.20	.05	.21	.00	.05

Statistics of Inspection of Annual Grant Schools.

DAY-SCHOOLS—SCHOOLS FOR OLDER SCHOLARS.

Examination and results of examination. Total—Standards I to VII inclusive.

	Schools connected with National Society or Church of England.	Wesleyan Schools.	Roman Catholic Schools.	British, Undenominational, and other Schools.	School-Board Schools.	Total.
Number of scholars examined:						
Under 10 years of age.....	557,699	43,482	61,056	84,747	439,544	1,186,528
Over 10 years of age.....	624,090	53,760	67,347	105,071	559,304	1,409,572
Total.....	1,181,789	97,242	128,403	189,818	998,848	2,596,100
Number and percentage of those scholars who passed in—						
Reading: Number.....	1,109,671	91,647	122,043	178,875	952,495	2,454,731
Percentage.....	93.90	94.25	95.06	94.24	95.36	94.55
Writing: Number.....	1,027,945	85,346	115,030	166,905	900,149	2,205,376
Percentage.....	86.98	87.77	89.59	87.93	90.12	88.43
Arithmetic: Number.....	994,996	83,349	111,400	162,386	880,965	2,233,096
Percentage.....	84.19	85.71	86.76	85.55	88.20	86.02
Who failed to pass in—						
Reading: Number.....	72,118	5,595	6,360	10,943	46,353	141,369
Percentage.....	6.10	5.75	4.95	5.76	4.64	5.45
Writing: Number.....	153,844	11,806	13,373	22,912	98,799	300,724
Percentage.....	13.02	12.23	10.41	12.07	9.88	11.58
Arithmetic: Number.....	186,793	13,893	17,003	27,432	117,883	363,004
Percentage.....	15.81	14.23	13.24	14.45	11.80	13.98
Who passed in the three subjects:						
Number.....	868,906	73,148	99,707	143,057	792,696	1,977,574
Percentage.....	73.52	75.22	77.70	76.37	79.36	76.17
Who failed to pass in the three subjects:						
Number.....	312,883	24,094	28,636	46,761	206,152	618,526
Percentage.....	26.48	24.78	22.30	24.63	20.64	23.83
Total percentage of passes.....	88.36	89.24	90.46	89.24	91.23	89.66

Statistics of Inspection of Annual Grant Schools.

AGGREGATE ANNUAL INCOME AND EXPENDITURE OF SCHOOLS FOR THE YEAR ENDING AUGUST 31, 1890.

	Schools connected with National Society or Church of England.		Wesleyan Schools.		Roman Catholic Schools.		British, Undenominational, and other Schools.		School-Board Schools.		Total.	
	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.
INCOME.												
Endowment	138,118	5 2	539	7 8	2,291	7 7	19,148	7 4	3,973	19 5	164,061	7 2
School-board rates	589,640	14 1	17,253	1 5	70,911	10 9	79,733	5 9	1,320,468	15 1	1,320,486	15 1
Voluntary contributions	865,515	11 3	103,614	13 10	81,213	13 7	171,435	14 1	1,141	6 1	758,669	18 1
School pence paid by scholars ..	31,643	6 0	2,229	18 7	10,887	12 3	3,847	18 11	659,382	19 3	1,881,212	12 0
„ „ guardians ..									10,724	14 7	59,333	10 4
Government grant (1888-'89) ..	1,455,442	2 3	117,841	1 6	165,485	16 2	228,251	14 10	1,322,264	9 6	3,286,285	4 3
Other sources	35,553	18 3	3,502	3 3	1,129	5 5	6,332	5 3	55,871	14 6	102,389	6 8
Total	3,115,913	17 0	244,970	6 3	331,919	5 9	508,789	6 2	3,373,845	18 5	7,575,438	13 7
EXPENDITURES.												
Salaries	2,455,766	1 6	195,451	7 10	235,389	8 6	396,143	8 9	2,618,434	19 5	5,901,185	6 0
Books and apparatus	172,749	18 8	15,097	8 7	21,549	4 6	29,860	9 8	187,441	1 10	426,698	3 3
Miscellaneous	480,502	6 0	35,248	10 9	77,541	10 1	81,645	7 4	564,143	5 2	1,239,080	19 4
Total	3,109,018	6 2	245,797	7 2	334,480	3 1	507,649	5 9	3,370,019	6 5	7,566,964	8 7
DAY-SCHOOLS.												
Rate of income per scholar in average attendance	1 16 11½		1 17 3		1 14 4		1 19 4½		2 6 0½		2 0 6½	
Rate of expenditure per scholar in average attendance	1 16 10½		1 17 4		1 14 6½		1 19 3½		2 5 11½		2 0 6	

SCIENCE AND ART DEPARTMENT.

ILLUSTRATIVE SCIENCE COURSE.

(See page 156.)

INORGANIC CHEMISTRY, PRACTICAL.

FIRST STAGE OR ELEMENTARY COURSE.

The practical knowledge of the candidate will in this stage be tested both by a written and a practical examination.

I. The subjects of the written examination will include—

- (a.) The preparation of the elements and compounds enumerated in the elementary course of Subject X (Theoretical), and the methods of experimentally demonstrating their properties.
- (b.) The principal reactions, both wet and dry, of the following: lead, bismuth, manganese, calcium, magnesium, potassium, ammonium, carbonic acid, nitric acid, sulphuric acid, hydrochloric acid.

These questions will, as much as possible, be so framed as to prevent answers being given by students who have obtained their information merely from books and oral instruction. Any student on whom it is intended to claim payments in this stage may be called on by the inspector of the Department, when visiting the Laboratory, to repeat some of the experiments which he has had the opportunity of witnessing.

The value of the answers will be greatly enhanced by the neatness and clearness of the sketches; provided always, that an accurate knowledge of the construction of the apparatus is exhibited.

II. The practical examination will consist in testing two powders, neither of which will contain more than two metals and one acid from the above list. These powders will be soluble in water or dilute acid.

The value of the analytical results will be enhanced if the conclusions from the experiments be clearly stated and confirmed by more than one reaction.

No notes, books, or analytical tables may be consulted during the examination.

Two and a quarter hours will be allowed for the examination in practical analysis, and one hour for the written examination.

SECOND STAGE OR ADVANCED COURSE.

The examination will consist of two parts:

I. A short written examination of about four questions, with the object of testing the candidate's knowledge of the ordinary methods of qualitative analysis and of the preparation of such bodies as are enumerated in Second Stage, Subject X.

II. A practical examination, in which the candidate will be given two substances for qualitative analysis, each containing not more than two simple salts. No books or analytical tables may be consulted during the examination. The student should have studied the reactions of the following metals: silver, lead, mercury, copper, bismuth, cadmium, tin, arsenic, antimony, iron, manganese, aluminum, chromium, zinc, cobalt, nickel, calcium, strontium, barium, magnesium, potassium, sodium, ammonium; and the following acids: hydrochloric, hydrobromic, hydriodic, hydrofluoric, sulphurous, sulphuric, carbonic, phosphoric, nitric, chloric, and hydrosulphuric.

The remarks with respect to inspection made in the Elementary Stage apply also to this grade.

Three and a quarter hours will be allowed for the examination in practical analysis, and one hour for the written examination.

HONORS.

The student will be required to have studied the more important methods of quantitative analysis. The examination will consist of two parts:

I. An examination in qualitative analysis, in which two substances will be given which must be examined for the whole of the radicals contained in the list given in the Advanced Stage (Practical).

II. *A practical examination in quantitative analysis, in which the candidate will be expected to show proficiency in the*

quantitative estimation of the ordinary metals and inorganic acids by gravimetric and volumetric analysis.

The gravimetric analysis should include exercises in the determination of the following metals: silver, lead, mercury, copper, tin, iron, manganese, aluminum, chromium, zinc, cobalt, nickel, calcium, barium, magnesium, potassium, sodium, ammonium; and of the following acids: hydrochloric, hydrobromic, hydriodic, sulphuric, carbonic, phosphoric, nitric, and hydro-sulphuric.

The volumetric analysis should include exercises in the ordinary methods of acidimetry and alkalinimetry; and use of standard solutions of potassium, permanganate, and iodine.

Eight hours will be allowed for the complete examination.

COURSE OF INSTRUCTION IN THE NATIONAL ART TRAINING SCHOOL.

(See page 161.)

In following out the Courses of Instruction, Students are required to pass, with the approval of the Principal, in the following stages:

- I. Course for Students wishing to study Landscape, Still-life, and Flower Painting:
 1. Elementary.—Preparatory to any study in this Course:
 - Stage 2*b*. Outlining from the flat if necessary (from Dyce and Jacobsthal).
 - 3*b*. Outlining Ornament from the round.
 - 11*a*. Drawing in Sepia from the flat.
 2. Preparatory to Painting from Nature, in Oil or Water-color:
 - 10*a*. Outlining Foliage from Nature.
 - 5*a* and *b*. Shaded drawing in Chalk from Models, Casts of Ornament, Fruit, etc.
 - 12*a*. Sepia drawing, or Monochrome, or Tempera painting from the same.
 - 13*a*. Painting Flowers, etc., from the flat.
 3. Advanced:
 - Stages 15*a* and *b*. Painting Flowers, groups of Still-

life, etc., from Nature, in Water-color or Oil. Copies of Landscapes.

Students in this Course should attend the class lectures on Model-drawing and Plant-form.

II. Course for Students wishing to study the Figure:

1. Elementary.—Preparatory to any study in this Course:

Stage 2*b*. Outlining from the flat (if necessary).

8*a*. Outlining details of the face from the round.

8*a*. Outlining the Head, Hands, and Feet, and whole Figure from the round.

5*a* and *b*. Shaded drawing in Chalk from Models, and Casts of Ornament.

Before being admitted to the next Preparatory Course, Students must pass through the Model-drawing and Perspective class.

2. Preparatory to drawing from the Life:

8*b*1. Shaded drawing in Chalk from Heads, Hands, and Feet from the Cast.

8*b*2. Shaded drawing of the whole Figure from the Antique.

9*a*. Outlines of the Skeleton and Anatomical Figure, with the names of the Bones and Muscles.

Students must attend the class lectures on Anatomy and pass the examination on the course.

3. Preparatory to Painting from the Life, in Oil or Water-color:

Add to the above,

12*a* and 16*a*. Sepia, Tempera, or Monochrome painting of the Figure from the Cast.

4. Advanced:

Stages 8*c* and *d*. Shaded drawing in Chalk from the living Model, nude or draped.

17*b*. Painting from the living Model, in Oil or Water-color.

Studies of Drapery drawn or painted.

23*d*. Figure composition,

III. Course of design. (This will also be the course for those Students in training who are working for the second Certificate of the Third Grade.)

Students in design, unless they have taken or are working for the first Certificate of the Third Grade, must first follow the Elementary Course in No. 1.

The course will consist—

1. Of Outline Drawing and Monochrome coloring from Jacobsthal, Meurer, Teirich, Gruner, and other works, which must be used not only as a means of studying drawing, but as a definite course of design.
2. Stage 11*b*. Painting Ornament from flat examples.
 - 11*a*. Painting Ornament in Monochrome from the Cast.
 - 14*a*. Studies of Plants from Nature.
3. Designing in imitation or completion of given examples.
4. Composition.

IV. Modeling.

Before entering the Modeling class, Students must pass the Elementary stages in Course II, and attend the Model-drawing and Perspective lectures.

V. Etching.

Students desirous of entering the Etching Class must give evidence that they are sufficiently advanced in drawing to profit by the instruction, and obtain permission to attend.

RULES TO BE OBSERVED IN PLANNING AND FITTING UP PUBLIC ELEMENTARY SCHOOLS.

BUILDING RULES.

1. PLANNING AND ACCOMMODATION.

1. In planning a school, the first thing is to seat the children in the best manner for being taught. The accommodation of each room depends not merely on its area, but also on its shape (especially in relation to the kind of desk proposed), the positions of the doors and fireplaces, and its proper lighting. The second point is to group the rooms together in a compact and convenient manner.

2 and 3. SCHOOL-ROOMS.

2. The proper width for a school-room is 18 to 20 feet (according to length), or 22 feet. If the width does not exceed 20 feet, groups of three long desks must be used; if the width is 22 feet, dual desks, five rows deep, must be used.

(a.) Accommodation is calculated by the number of children seated at desks and benches.

(b.) Double-bank schools (now almost obsolete) require rooms 32 feet wide, walls left clear for three rows of desks, and ample lighting from windows on both sides extending to ceiling.

(c.) Wasted space can not be considered.

3. The doors and fireplaces in school-rooms must be so placed as to allow of the whole of one side of the school-room being left free for the groups of benches and desks.

(a.) No school-room lighted from one side only can be approved.

4. WALLS AND ROOFS.

4. The walls of every school-room and class-room, *if ceiled at the level of the wall-plate*, must be at least 12 feet high from the level of the floor to the ceiling; and if the area contain more than 360 superficial square feet, 13 feet; and if more than 600, then 14 feet.

(a.) The walls of every school-room and class-room, *if ceiled to the rafters and collar beam*, must be at least 11 feet high from the floor to the wall-plate, and at least 14 feet to the ceiling across the collar beam.

(b.) Great care should be taken to render the roofs impervious to cold and heat.

(c.) Roofs open to the apex are not approved. They can only be permitted where the roofs are specially impervious, and where apex-ventilation is provided.

(d.) The whole of the external walls of the school and residence, *if of brick*, must be at least one brick and a half in thickness; and, *if of stone*, at least 20 inches in thickness.

(e.) All walls, not excepting fence walls, must have a damp-proof course just above the ground line.

(f.) The whole area of the building should have concrete 6 inches thick under the ground floor, and air bricks for ventilation to joists.

5. ENTRANCES.

5. Entrances should be separate for each department. In large schools more than one entrance is desirable. The principal entrances should never be through the cloak-room.

6. CLOAK-ROOMS.

6. Cloak-rooms should have gangways at least 4 feet wide, amply lighted from the end. Hat-pegs should be 12 inches apart, and of two tiers. There should be a separate peg numbered for each child.

7. CLASS-ROOMS.

7. Class-rooms are calculated at 10 square feet if not providing accommodation for more than 60 children. Six rows of dual desks or four rows of long-length desks are permissible in such class-rooms.

(a.) The minimum size of class-room is 18 feet \times 15 feet. If desks are placed longitudinally the width should not be less than 16 feet.

(b.) The class-rooms should never be passage-rooms from one part of the building to another nor from the school-rooms to

the play-ground or yard, and should be on the same level as the school-room. Each should be easily cleared without disturbance to any other room. The number of class-rooms should, where practicable, equal the number of classes in the school-room.

8. HALLS.

8. Large schools are sometimes planned on the principle of the central hall. In such cases the hall can not be calculated in the accommodation.

In the case of mixed schools it may be necessary to teach one class in the hall in order to secure a teacher's supervision of the separate exits. But the hall must be suitable for teaching such class, and the fittings marked on the plan.

9. WINDOWS.

9. The light should, as far as possible, and especially in class-rooms, be admitted from the left side of the scholars. [This rule will be found greatly to influence the planning.] All other windows in class-rooms should be regarded as supplementary, or for summer ventilation. In cases where left light is impossible, right light is next best. Where neither is possible, the light should be admitted from a high point.

(a.) Windows should never be provided for the sake merely of external effect. All kinds of glazing which diminish the light and are troublesome to keep in repair should be avoided. A large portion of each window should be made to open for ventilation and for cleaning.

(b.) The sills of the main lighting windows should be placed about 4 feet above the floor. And the tops of some should always reach nearly to the ceiling. The ordinary rules respecting hospitals should here be remembered.

(c.) Skylights are objectionable, and should never be resorted to where windows are possible. Plans needlessly involving their use can not be approved.

10. STAIRCASES.

10. No triangular steps or "winders" should be used in staircases. Each step should be about 13 inches broad and not

more than 6 inches high. The flights should be short, and the landings unbroken by steps. The number of staircases should be sufficient not only for daily use, but for rapid exit in case of fire or panic. Entrance doors should open outward.

11. VENTILATION.

11. Apart from open windows and doors, there should be provision for copious inlet of fresh air; also for outlet of foul air at the highest point of the room; the best way of providing the latter is to build to each room a separate air-chimney, carried up in the same stack with smoke-flues. An outlet should be warmed in some manner, or it will frequently act as a cold inlet. The principal point in all ventilation is to prevent stagnant air. Particular expedients are only subsidiary to this main direction.

(a.) Although lighting from the left hand is considered so important, ventilation in summer demands also the provision of a small swing-window as far from the lighting as possible, and near the ceiling.

12. WARMING.

12. The warming should be moderate and evenly distributed, so as to maintain a temperature of from 56° to 60° . When a corridor or lobby is warmed, the rooms are more easily dealt with, and are less liable to cold draughts. Where schools are wholly warmed by hot water, the principle of direct radiation is recommended. In such cases open grates, in addition, are useful for extra warming occasionally, and their flues for ventilation always.

13. SANITARY ARRANGEMENTS.

13. Water-closets within the main school building are not desirable, and are only sanctioned for female teachers.

(a.) The doors and passages from the school-room to the latrines (whether in mixed or in other schools), and the latrines themselves, must be separate for the two sexes, and constructed entirely apart from each other.

(b.) Each closet must be separate, having a door and ventilation to each. More than one seat is not allowed in any closet. A strong top light should be provided.

(c.) The children must not be obliged to pass in front of the teacher's residence in order to reach their offices.

(d.) The following table shows approximately the number of privies, earth-closets, or water-closets needed :

	For girls.	For boys.
Under 50 children.....	3	2
" 70 "	4	2
" 100 "	5	3
" 150 "	6	3
" 200 "	7	4
" 300 "	8	5
		Urinals in proportion.

(e.) Cess-pools and privies should only be used where unavoidable. Earth or ash closets of an approved type may be employed in rural districts, but drains for the disposal of slop and surface water are still necessary.

(f.) Soil-drains must always be laid outside the building (on a hard, even bottom or concrete) in straight lines, with glazed stoneware pipes, carefully jointed in cement and made absolutely water-tight. A diameter of 4 inches is sufficient, unless receiving the discharge of more than 10 closets. Above this number the diameter may be 6 inches. The fall should never be less than 1 in 30 for 4-inch, and 1 in 40 for 6-inch drains. An inspection opening or chamber should be provided at each change of direction, so as to facilitate cleansing the drain without opening the ground. Every soil-drain must be disconnected from the main sewer by a properly constructed trap placed on the line of drain between the latrines and the public sewer. This trap must be thoroughly ventilated by at least two untrapped openings ; one being the 4-inch soil pipe carried up full size above the roof, and the other an inlet pipe connected with the side of the trap farthest from the public sewer. Automatic flushing tanks are desirable where trough closets are used.

(g.) Urinals must in all cases have a sufficient supply of water for flushing.

(h.) Waste-pipes from sinks or lavatories should be first trapped inside and then made to discharge direct through the wall over a trapped gully.

14. DESKS.

14. Benches and desks, graduated according to the ages of the children, should be provided for all the scholars in actual attendance.

An allowance of 18 inches per scholar at each desk and bench will suffice (except in the case of the dual desk), and the length of each group should therefore be some multiple of 18 inches, with gangways of 18 inches between the groups and at the walls. In the case of the dual desk the usual length is 3' 4" and the gangways 1' 4".

(a.) The desks should be either quite flat or *very slightly* inclined. An angle of 15° is sufficient. The objections to the inclined desk are, that pencils, pens, etc., are constantly slipping from it, and that it can not be conveniently used as a table. The objection to the flat desk is, that it has a tendency to make the children stoop. A raised ledge in front of a desk interferes with the arm in writing.

(b.) As a general rule, no benches and desks should be more than 12 feet long. And no group of long desks should contain more than three rows of benches and desks (unless in separate class-rooms), *because in proportion as the depth is increased, the teacher must raise his voice to a higher pitch; and this becomes exhausting to himself, while at the same time it adds inconveniently to the general noise.*

15. PLAY-GROUNDS.

15. Every school should have a play-ground.

(a.) In the case of a mixed school, playgrounds must be separate for the boys and girls.

(b.) All play-grounds should be properly leveled, drained, inclosed, and fitted with some simple appliances. A portion should be covered, having one side against a wall. A covered way should never connect the offices with the main building.

(c.) An infant school should have its play-ground on the same level as the school.

16. INFANT SCHOOLS.

16. Infants should not, except in very small schools, be taught in the same room with older children, as the noise and the training of the infants disturb and injuriously affect the discipline and instruction of the other children.

(a.) There must be no opening wider than an ordinary doorway between an infants' and any other school-room, because of the sound of the infant-teaching.

(b.) An infant school and play-ground should be on the ground floor, and, if more than 80 scholars are admitted, should have one gallery and a small group of benches and desks for the occasional use of the elder infants.

(c.) No infant gallery should hold more than 80 or 90 infants. It should be well lighted from one side. The light for object lessons is as good from the right as from the left.

(d.) The width of an infant school-room should be in proportion to its size, and may be 24 feet.

(e.) The babies' room should always have an open fire.

(f.) The accommodation of an infant school-room is calculated at 8 square feet for each child, after deducting wasted or useless space.

17. COOKERY CENTERS AND CLASS-ROOMS.

17. A cookery center should be capable of accommodating at least one class of 24 at practice and not more than 72 at demonstration at one time. A cookery class-room should contain about 400 superficial feet.

18. TEACHER'S HOUSE, ETC.

18. The *Residence for the Master or Mistress* should contain a parlor, a kitchen, a scullery, and three bedrooms; and the *smallest* dimensions which their Lordships can approve are:

For the parlor, 12 feet by 12 feet of superficial area; 8 feet in height to wall-plate.

For the kitchen, 12 feet by 10 feet of superficial area; 8 feet in height to wall-plate.

For one of the bedrooms, 12 feet by 10 feet of superficial

area; 8 feet if ceiled at wall-plate; or 7 feet to wall-plate, and 9 feet to ceiling.

For two other bedrooms, 9 feet by 8 feet of superficial area.

(a.) The residence must be so planned that the staircase is immediately accessible from an entrance-lobby, and from the parlor, kitchen, and each bedroom, without making a passage of any room.

(b.) Each bedroom must be on the upper story, and must have a fireplace.

(c.) The parlor must not open directly into the kitchen or scullery.

(d.) There must be no internal communication between the residence and the school.

(e.) There must be a separate and distinct yard, with offices.

(f.) The residence for a care-taker need not be so large.

(g.) All houses should be separate from the school-house.

19 AND 20. LOANS.

19. No loan of money can be obtained from the Public Works Loan Commissioners unless the whole cost of the school, exclusive of site, legal expenses, extra rooms for instruction authorized by the Code, and residences (if any), is kept within the sum of £10 per child accommodated. An allowance will also be made in reference to the cost of a Central Hall up to a maximum of £600. Whether the necessary loan be borrowed in the open market or not, extravagant plans can not be approved.

20. The Department do not entertain applications for loans when the expenditure has been incurred without their previous sanction.

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